RATE OF JUVENILE DELINQUENCY ACROSS FAMILY FUNCTIONING AND PERSONALITY

By

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This dissertation is dedicated

to all of those throughout my life

who believed and encouraged me to say

"I can."

And

To all of my family and friends

who continue to stand by me

while I strive to have

my moments of

"I did it."

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Now that I have finished this dissertation, I know the answer to the question, "How did the turtle win the race?" He did it slowly, with persistent focus, and most importantly, always with the support of those who believed in him.

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This study was guided by a transactional and eco-systemic conceptualization of delinquency risk and predicted that the level of development of antisocial behaviors is a function of the interaction among individual and contextual characteristics. While strides in the literature have been made to substantiate the usefulness of eco-systemic multivariate models in delinquency research, this study investigated the yet to be fully explored existence of a possible relationship between facets of the adolescent's personality and perceptions of family functioning across rates of delinquency.

The research was based on a sample consisting of 169 delinquent African-American and Caucasian adolescents who ranged from 13 to 18 years. The subjects fit into one of three rates of offending: first time offenders (having only one charge), multiple offenders (having 2 to 4 charges) and chronic offenders (having 5 or more

charges). Each subject's personality was assessed through the use of the Jesness Personality Inventory. Each subject's perception of family functioning was assessed through the use of the Family Adaptability and Cohesion Evaluation Scale (FACES-II). The data were analyzed using multinomial logistic and bivariate logistic regression procedures.

The results of the current study provide statistical evidence which supports the need to include within eco-systemic multivariate models of delinquency rate the variables of age, gender and the interaction of facets of the adolescent's personality (Manifest Aggression) and family functioning (Cohesion). These findings support the need for future research which is guided by eco-systemic multivariate models of delinquency risk to explore further the complex relationship between theories of personality and family functioning across rates of juvenile delinquent offending. A meta model which outlines a theory of hierarchical cybernetic feedback loops was presented to provide insight and guidance for future research and elucidate the processes at work between the rate of juvenile delinquency across personality and family functioning.

CHAPTER I
INTRODUCTION

There is an ancient fable out of India reported by Karen Backstein (1992) which tells of six blind men who encounter an elephant for the first time. Each touches a different part of the immense animal and each one's description elicits a distinctly different image of the animal which each believes is an accurate picture of what the animal is truly like. However, the wise Rajah advises them to combine each of their perspectives in order to gain a greater understanding of the nature and identity of the elephant.

The study of juvenile delinquency is currently going through a similar evolution. Rather than take a singular view (biological, psychological, or sociological) in the etiology of delinquency, much of the field is pursuing a more holistic eco-systemic view of self and system development (Bogenschneider, 1996, Bronfenbrenner, 1979; Henggeler, 1989; Lerner, 1991; Liddle, 1995; Magnusson, 1995; Moffitt, 1993; Salts, Lindholm, Goddard, & Duncan, 1995; Mulvey, Arthur, Reppucci, 1993; Paris, 1996; Reid, 1993; Tolan & Loeber, 1993; Yoshikawa, 1994; Worden, 1991). This new approach to delinquency, proposes that the relationship between an adolescent's personality and family functioning is likely to influence his/her rate of juvenile delinquent acts. Presently, little is known about this hypothesized relationship in the study of juvenile delinquency so this study has theoretical implications regarding the

importance of personality and family functioning in the promising eco-systemic approach to delinquency and practical applications in the areas of research, training, practice and social policy.

The purpose of this study was to determine if there exists a relationship between personality and family functioning across the rate of delinquency.

Scope of the Problem

The extent and costs of juvenile delinquency compounds the urgency for research which contributes to the understanding and ultimate efforts to decrease juvenile delinquency. From 1988 to 1992, juvenile violent crime arrests increased 47% (whereas adult violent crime arrests increased 19%). Increases in juvenile arrests for specific offenses were murder (51%), Rape (17%), Robbery (50%), and aggravated assault (49%) (Snyder, 1994). From 1988 through 1992, the number of delinquent cases disposed by juvenile courts increased 26%. During the same period, Juvenile Courts disposed 56% more violent cases, including 55% more homicide and 80% more aggravated assault cases (Butts, Snyder, & Finnegan, 1994). According to a report by Butts (1994), juvenile courts in the United States handled almost one and a half million delinquency cases in 1992, a 26% increase over the 1988 cases load. Were this rate to continue, that load would double approximately every 12 years (rule of 70) (Williams & Rogers, 1996). Further, according to the Federal Bureau of Investigations (FBI) Uniform Crime Reports (1994), law enforcement agencies made 2.0 million arrests of juveniles (people below the age of 18) in 1993. Juveniles were responsible for 17% of all arrests in 1993.

Between 1989 and 1993, the total number of juveniles increased 13% (FBI, 1994). Juveniles committed 13% of all violent crimes (i.e., homicide, rapes, robberies, and aggravated assaults) in the United States in 1993 (as measured by crimes that were cleared by arrests) (FBI, 1994). In 1993, juveniles accounted for 13% of the U.S. population, were responsible for 9% of all murder clearances in the United States, 14% of forcible rapes, 17% of robberies, and 13% of all aggravated assaults (FBI, 1994).

The most recent FBI Uniform Crime Reports (1997) on juvenile crime are a bit more encouraging. The juvenile arrest rates for violent crime dropped 9% from 1995 and 12% from 1994, marking the second year of decline after steady increases the previous six years. The juvenile arrest rate for robbery dropped 10% between 1995 and 1996, while the juvenile arrest rate for aggravated assault dropped 9%. The juvenile arrest rate for burglary in 1996 is 45% lower than 1980, while the arrest rate for motor vehicle theft is the lowest since 1987 and the rate for arson the lowest since 1992. While there appears to be a slowing in the rate of juvenile delinquency, we are no where near the low rates of 1950s (Loeber, 1990). Juvenile delinquency continues to exact a high toll on society and causes great emotional and interpersonal costs to the adolescent and those around them (Gorman-Smith, Tolan, Zelolli, & Huesmann, 1996; Laub & Sampson, 1994; Cohen, Miller, & Rossman, 1994).

The costs of delinquency to society in resources and funds are enormous. The United States spends more than 1 billion dollars a year to maintain our juvenile justice system (Patterson, DeBaryshe,& Ramsey, 1989). The average cost of incarcerating a minor has risen from $29,000 in 1992 (Children's Defense Fund, 1992) to $36,000 per

year in 1998 (Quinn, 1998). The Rand corporation reported that in the United States, the expected crime and correction costs for one chronic juvenile offender was $225,000 to $350,000 over his or her life time, based on 1.5 arrests a year over 13.3 years of crime. This figure does not include the cost of the damage to other people's property (Shamsie & Hluchy, 1991). The yearly cost of school vandalism alone is estimated to be one-half billion dollars (Feldman, Caplinger, & Wodarski, 1981). The chronic offenders (five or more offenses) alone exact an enormous monetary cost to society in police hours, court time, failed attempts at rehabilitation and billions of dollars spent to repair the tangible consequences of such offending (Lynam, 1996). These costs are staggering considering that chronic offenders may only make up 5-6% of the total delinquent population, yet are reported to be responsible for 50-60% of known crimes (see, Farrington, Ohlin & Wilson, 1986).

There are many personal costs of delinquency that impact an adolescent when according to Steinborg (1991), changes are occurring in an adolescent's life faster and greater than at any other time except infancy. Adolescents are faced with understanding and accepting their own biological changes, becoming comfortable with their sexuality (particularly the emergence of sexual preference), choosing their occupational identity and negotiating their developmental struggle towards autonomy and independence (Kinney & Leaton, 1983). These complex tasks in development are negatively impacted by delinquency. For example, Patterson, DeBaryshe, and Ramsey (1989) reported that antisocial children are likely to experience major adjustment problems in the area of academic achievement and peer social relations (Kazdin, 1987; Walker, Shinn, O'Neill,

& Ramsey, 1987; Wilson & Herrnstein, 1985). Jessor (1991) concluded that high risk behaviors such as delinquency can jeopardize the accomplishment of normal developmental tasks, the fulfilment of expected social roles, the acquisition of essential skills, the achievement of a sense of adequacy and competence, and the appropriate preparation for transition to the next stage in the life trajectory (i.e., young adulthood). Perhaps one of the greatest personal costs is the waste of a young person's life, who, after chronically offending, may never realize his/her potential, but rather spends most of the time in and out of institutions.

Efforts to study and look for answers to delinquency are complicated when considering how to distinguish among the types of juvenile delinquents. The historical approach of comparing delinquent to non-delinquent groups has more recently been viewed as too gross a distinction due to the shear frequency of delinquent acts during adolescence (Lau & Leung, 1992; Tolan & Loeber, 1993). It has been reported that 88% of juveniles confess to committing at least one chargeable offense (Williams & Gold, 1982). In adolescence (age 13-18) more than 50% admit to theft, 35% admit to engaging in more than one type of antisocial behavior, such as aggression, drug abuse, arson and vandalism (See Elliot, Ageton, Huizinga, Knowles, & Carter, 1983; Feldman, Caplinger, & Wodarski, 1983; Moffitt, Silva, Lynam & Henry, 1994; William & Gold, 1982). Actual rates of delinquent behavior soar so high during adolescence that participation in delinquent behavior appears to be a normal part of teen life (Elliot, Ageton, Huizinga, Knowles, & Carter, 1983; Elliot, Huizinga, & Menard, 1989; Moffitt, 1993; Tolan & Loeber, 1993; Tolan & Guerra, 1992; Tolan & Lorion, 1988).

Indeed, numerous rigorous self-report studies have now documented that it is statistically aberrant to refrain from crime during adolescence (Elliot, Ageton, Huizinga, Knowles, & Carter, 1983; Hirschi, 1969; Moffitt & Silva, 1988).

Thus, following that involvement in antisocial behavior of some sort is almost universal among American adolescents and recognizing that differences have been found between transient (few offenses) and chronic (five or more offenses) involvement in delinquency (Lorion, Tolan, & Wahlar, 1987; Moffitt & Silva, 1988; Quay, 1987; Shannon, 1978; Tolan, 1987; Tolan, Lorion, 1988; West & Farrington, 1977) various levels of involvement should be distinguished when studying the delinquent population (Tolan & Loeber, 1993; Tolan, Cromwell, & Brasswell, 1986). Adding to the complexity of studying this population is the finding that most adolescents committing antisocial acts engage in a large variety of acts termed "Cafeteria-style offending" (Farrington, 1990; Gottfredson & Hirschi, 1994; Haapasalo & Hamalainen, 1996; Klein, 1984,1989). To account for these concerns, this study utilized frequency of offending (rate) to distinguish delinquents within the collected sample population. Frequency is a method of measurement common in delinquency research and has shown high reliability and validity (Cox, 1996; Lau & Leung, 1992; Leug & Drasgow, 1986; Lynam, 1996; Spiuack, Marcus, & Swift, 1986). The following will further explore the complexity of delinquency and present the guiding theoretical lenses used to understand and investigate delinquency in the current study.

The high costs and wide spread occurrence of delinquency has spurred many efforts to discover what factors contribute to the understanding and explanation of the

varying levels in delinquency among the youth. Many of these factors purposed by criminologists and psychologists alike include: poverty, lack of bonding to societal institutions, bonding to deviant peer groups, low intelligence, availability of drugs and guns, genetic predisposition, neurological and biological factors, differences in personality, family background, family functioning and family risk factors (Binder, Geis, & Bruce, 1988; Elliot, Huizinga, & Ageton, 1985; Farrington, Loeber, Elliott, Hawkins, Kandel, Klein, McCord, Rowe, & Tremblay, 1990; Goldstein, 1990; Hirschi, 1969; Jesness, 1996; Loeber & Stouthamer-Loeber, 1986; Patterson, DeBarshe, & Ramsey, 1989; Walsh & Olson, 1989; Yoshikawa, 1994).

More recent views in the field of juvenile delinquent study support the notion that delinquency is a result of many complex interacting factors, thus having no single factor explaining its occurrence (Benda, 1987; Bogenschneider, 1996; Calabrese & Adams, 1990; Marsh, Clement, Stoughton, & Marckioni, 1986; Jesness, 1996; Salts, Lindholm, Goddard, & Duncan, 1995; Tolan & Loeber, 1993; Tolan, Cromwell, & Brasswell, 1986; Worden, 1991). Consistent with this view and providing the theoretical bases for this study, was the theoretical works of Bronfenbrenner (1979).

Bronfenbrenner's (1979) holistic eco-systemic view of self and system development has gained wide support in the literature as a theoretical model providing a viable frame that can explain the need for a multivariate approach in the understanding, treatment, and prevention of juvenile delinquency (Bogenschneider, 1996, Henggeler, 1989, Liddle, 1995; Moffitt, 1993; Salts, Lindholm, Goddard, & Duncan, 1995; Paris, 1996; Reid, 1993; Tolan & Loeber, 1993; Yoshikawa, 1994; Worden, 1991).

Bronfenbrenner's (1988) theory has at its foundation the premise that human development occurs as a joint function between the characteristics of the person and the environment.

The empirical literature strongly supports Bronfenbrenner's view of behavior in which criminal behavior is multidetermined by the reciprocal interplay of characteristics of the individual youth and the key social systems in which the youths are embedded (i.e., family, peer, school, neighborhood, etc.) (Elliot, 1994; Hawkins, & Catalano, 1993; Henggeler, 1989, 1996; Thornberry, Huizinga, & Loeber, 1995; Tolan, Guerra, 1994). Considered most influential on human development are the proximal environmental and organismic influences (Bronfenbrenner, 1988). Proximal influences emanate either from within the person, or from physical features, objects, and persons in the immediate face to face setting (Bronfenbrenner, 1988). Two proximal influences which have been supported in the literature to be related to delinquency and were the focus of the current study of adolescent rate of delinquent offending were the adolescent's personality and the adolescent's perception of their family functioning.

Personality factors have for a long time occupied an important role and been linked in research to antisocial and delinquent behavior (Dembo, La Voie, Schmeider, & Washburn, 1987; Farrington, 1990; Fonseca & Yule, 1995; Gold, 1978; Heaven, 1996; Hoge, Andrews, Lesheid, 1994; Jesness, 1996; Roderts, Schmitz, Pinto, & Cain, 1990; Rutter & Rutter, 1993; Salts, Lindholm, Goddard, & Duncan, 1995; Paris, 1996; Tolan & Loeber, 1993; Quay, 1987). Family factors have also consistently been strongly related to delinquency in studies and reviews of antisocial and delinquent behavior (Chamberlain &

Rosicky, 1995; Hazelrigg, Cooper, & Borduin, 1987; Lauritsen, 1993; Loeber & Hay, 1994; ;Henggeler, 1989; Loeber & Dishion, 1983; Tolan, Cromwell, & Brasswell, 1986; Wasserman, Miller, Pinner, & Jaramillo, 1996; Loeber & Stouthamer-Loeber, 1986; Snyder & Patterson, 1987; Tolan & Loeber, 1993).

Based on Bronfenbrenner's (1979) model, an expected relationship was expected to exist between an adolescent's personality and their perception of family functioning across their rate of delinquent offending. Bronfenbrenner's (1979) holistic eco-systemic model provided the theoretical frame to validate the growing consensus within the field of delinquency research for the need to explore the existence of a possible relationship between personality and family functioning across rate of delinquent offending (Arbuthnot, Gordon, & Jurkovic, 1987; Cox, 1996; Jesness, 1996; Jessor, 1991; Le Blanc, 1992; Lorion, Tolan, & Wahlar, 1987; Quay, 1987; Sameroff & Chandler, 1975; Shaw & Scott, 1991; Tolan, Cromwell, & Brasswell, 1986) . Thus, the purpose of this study was to determine if there exists a relationship between personality and family functioning across the rate of delinquency. This study addressed this recognized gap in the understanding of delinquency and provides information which has theoretical and practical implications for the understanding and future work with the complex and costly problem of Juvenile delinquency.

Theoretical Framework

Bronfenbrenner's holistic eco-systemic model of human development has been embraced by many in delinquency research due to the growing trend to utilize

multivariate models to explore the etiology, treatment and prevention of delinquency (Tolan & Loeber, 1993). In agreement with the multivarite approach, this study also utilized Bronfenbrenner's (1979) model of human development to provide the theoretical grounds to investigate the existence of a relationship between the proximal characteristics of the person (i.e., personality) and the environment (i.e., family functioning) on the directions of human social development as seen through the adolescent's rate of delinquent offending. The following will be a presentation of Bronfenbrenner's eco-systemic model (1979), followed by Jesness's (1996) construct of personality and Olson, Russell and Sprenkle's (1983) Circumplex Model of Marital and Family Systems.

Eco-Systemic Model of Human Development

Bronfenbrenner, (1995) offered the following two propositions as defining properties to his ecological systems theory:

> Proposition 1: Especially in its early phases, and to a great extent throughout the life course, human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment. To be effective, the interaction must occur on a regular basis over extended periods of time. Such enduring forms of interaction in the immediate environment are referred to as proximal processes. Examples of enduring patterns of proximal processes are found in parent-child and child-child activities,

groups or solitary play, reading, learning new skills, studying, athletic activities, and performing complex tasks (Bronfenbrenner, 1995, p. 620).

Proposition 2: The form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the biopsychological characteristics of the developing person; of the environment, both immediate and more remote, in which the processes are taking place; and the nature of the developmental outcomes under consideration (Bronfenbrenner, 1995, p. 620).

According to Bronfenbrenner (1979), children are shaped not only by their personal attributes, but also by the ever-widening environments in which they develop. Children are influenced first and foremost by their family, but also by their peers, school and communities (Bogenschneider, 1996). From the ecological perspective the environmental influence is not limited to a single immediate setting, but is extended to incorporate interconnections between such settings, as well as, the external influences emanating from the larger surroundings. Thus, the ecological environment is conceived by Bronfenbrenner (1979) in a topologically nested arrangement of concentric structures with each containing the next. The structures are referred to as micro-, meso-, exo-, and macrosystems. This study focused on the microsystem, therefore more emphasis will be placed on its explanation.

The microsystem refers to a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and

material characteristics (Bronfenbrenner, 1979). Thus, it involves the structures and processes taking place in an immediate face to face setting containing the developing person (e.g., family, school, peer group, workplace, etc.). Contained within the microsystem are the more powerful proximal influences such as personality and family functioning. Of critical importance to Bronfenbrenner (1979) is not only the objective properties of the environment, but also the way in which these properties are perceived by the persons in the environment. Put simply, the aspects that are seen as most powerful in shaping psychological growth are those that have meaning to the person in a given situation. For this reason, the current study was most concerned with the perceptions of the adolescent when assessing personality and family functioning.

The three remaining progressively more comprehensive levels include the meso-, exo-, and macrosystem. The mesosystem comprises the linkages and processes taking place between two or more settings containing the developing person. The exosystem comprises the linkages and processes taking place between two or more settings, at least one of which does not contain the development person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives. And finally, the Macrosystem consists of the overarching pattern of micro-, meso-, and exosystems characteristic of a given culture or subculture, with particular reference to the belief system, bodies of knowledge, material resources, customs, life-styles, opportunity structures, hazards, and life course options that are embedded in each of these broader systems (Bronfenbrenner, 1994).

Further, two recent additions include the chronosystems (changes or consistencies over time) and the inclusion of the genetic inheritance in the ecological perspective (reconceptualization of the role of genetics in human development) (see Bronfenbrenner, 1994).

A basic tenet of the ecological perspective is the implied fit between the characteristics of a living organism and its surroundings (Bronfrenbrenner, 1988). Thus, for example, according to Worden (1991) the person brings a unique mixture of temperament, personality, intelligence, and developmental history to a given context which, in turn, possesses its own requirements: Intrapersonal dynamics interact with interpersonal forces. The "goodness of fit" between these two is then the soil of adaptive or maladaptive psychological and social functioning (Rutter & Rutter, 1993; Thomas & Chess, 1977; 1980; Lerner, 1982). Thus, optimal development does not directly derive from either the nature of the child's characteristics per se or the demands of the contexts within which the child functions. Instead, if a child's characteristics match (or fit) the demands of a particular setting, adaptive outcomes will accrue (Worden, 1991). In contrast, disturbed behavioral functioning is manifested in a "poor fit" between environment expectations and demands and the capacities of the child at a particular level of development (Thomas & Chess, 1980).

In closing, Bronfenbrenner's (1979) eco-systemic view of development not only recognizes characteristics of the person and the environment as critical to development, but holds that an interaction between the two is the general focus of eco-systemic based research. Interactional studies in delinquency are in the minority resulting in far more

known about main effects than interactional effects (Farrington, 1995; Hoge, Andrews, & Leshied, 1994; Tolan, 1987). According to Bronfenbrenner (1979), the interactional emphasis of the eco-systemic approach is due to the theoretical view that there exists a reciprocal nature of development. Development is seen as a two way street that entails changes: environmental demands change, behavior changes, attitudes change, and self-perceptions change. The "goodness of fit" fluctuates as environmental expectations and demands change or as the person's expectations and self-perceptions change; change in one effects changes in the other (Worden, 1991). As already mentioned, while it is important to consider both the environmental influences and the child's influences, Bronfenbenner (1979) highlights that when considering the environmental influences, what matters for behavior and development is the environment as it is "perceived" rather than as it may exist in "objective" reality. Thus, ultimately, development is defined as the person's evolving conception of the ecological environment, and his/her relation to it, as well as the person's growing capacity to discover, sustain, or alter its properties (Bronfenbrenner, 1979).

Construct of Personality

The construct of personality in this study was grounded in Jesness's (1996) Jesness Personality Inventory. Jesness (1996) sites the early influences of Marguarite (Grant) Warren and her sentinel work on I-level theory of personality (Sullivan, Grant, & Grant, 1957) as playing a major role in the foundations of the Jesness Personality Inventory Classification system and his articulation of personality characteristics defining the construct of personality.

The following will review this study's adopted core structure of personality, the defining elements of Jesness's construct of personality, and will close with a discussion of which facets of the Jesness Personality Inventory were utilized in the present study.

The core structure of personality as presented by Sullivan, Grant, and Grant (1957), has as a basic premise that human organisms tend to break experience into its fundamental elements to provide reference points in adjusting to the complex stimulus structure of the external world. According to Sullivan et al. (1957), these reference points are not isolated from one another, but are merged in a basic, central reference scheme or cognitive world, in which the experienced world of the person is integrated with, and modified by, personal needs and expectations. The nature and quality of perception and experience impact the developmental expectations and hypotheses about reference points and so determine behavioral consequences of experience.

According to Jesness and Wedge (1984), the individual's perception of his or her world is theorized to be constantly shaped by unique and ever-changing personal cognitive lens. Consequently, these expectations and hypotheses influence all the individual's interpretations of and responses to the environment. Thus, it is believed that over time a fairly consistent set of expectations and attitudes is established to form the interpreting and working philosophy of life. It is this nexus of gradually expanding experience, expectations, hypotheses, and perceptions which make up the core of personality (Sullivan et al, 1957).

Jesness adds to the work of Sullivan, Grant, and Grant (1957) by providing ten personality characteristics and an index of delinquency (A-Social Index). These

personality characteristics make up the construct of personality and are measured by the Jesness Personality Inventory. Jesness (1996) views the delinquent population as a heterogeneous group which can be distinguished not only by the number of offenses, but by their personality profile. The personality profile as measured by the Jesness Personality Inventory consists of the following personality dimensions (Jesness, 1996, p. 5):

Social Maladjustment Scale (SM): Social maladjustment refers to a set of attitudes associated with inadequate or disturbed socialization. Here, social maladjustment is defined by the extent to which individuals share attitudes of persons who do not meet personal needs and environmental demands in socially approved ways.

Value Oriented Scale (VO): Value orientation refers to a tendency to share attitudes and opinions characteristic of a person in the lower socioeconomic classes.

Immaturity Scale (Imm): Immaturity reflects a tendency to display attitudes and perceptions of self and others that are usual for a person of a younger age than the subject.

Autism Scale (Au): Autism measures a tendency to distort reality, and in thinking and in perceiving, according to one's personal desires or needs.

Alienation Scale (Al): Alienation refers to the presence of distrust and estrangement in a person's attitudes towards others, especially towards those representing authority.

Manifest Aggression Scale (MA): Manifest aggression reflect an awareness of unpleasant feelings (especially anger and frustration), a tendency to react readily with those feelings, and discomfort concerning the presence and control of those feelings.

Withdrawal-Depression Scale (Wd): Withdrawal-depression indicates the extent of an individual's dissatisfaction with him-or herself and others, in a tendency towards isolation.

Social Anxiety Scale (SA): Social anxiety refers to feelings of anxiety and to conscious emotional discomfort in interpersonal relations.

Repression Scale (Rep): Repression reflects the exclusion from conscious awareness of feelings that the individual normally would be expected to experience, or a failure to label these emotions.

Denial Scale (Den): Denial indicates a reluctance to acknowledge unpleasant events or conditions encountered in daily living.

Asocial Index (AI): The asocial index reflects a generalized disposition to resolve social or personal problems in ways that show a disregard for social customs or rules.

The current study focused on the SM, MA, and AI Jesness personality scales. These three have consistently been found to distinguish among levels of delinquency (Dembo, La Voie, Schmeidler, & Washburn, 1987; Graham, 1981; Kunce & Hemphill, 1983; Martin, 1981; Martin & Murphy, 1993; Sorensen & Johnson, 1996). Though the AI is a personality profile composite score of all 10 personality characteristics reflecting the generalized tendency to behave in ways that transgress established rules, the SM and MA have been found to stand out in their own right as important personality characteristics to consider in distinguishing among the delinquent population (Jesness, 1996).

Circumplex Model of Marital and Family Systems

The construct of family functioning is grounded in Olson, Russell and Sprenkle's (1983) Circumplex Model of Marital and Family Systems as tested by the FACES-II. The Circumplex Model of Marital and Family Systems consists of three central dimensions of family behavior which are integrated in the model: adaptability, cohesion, and communication (Thomas and Olson, 1993). The following will be a review of the Circumplex Model which was utilized in the current study.

The two primary dimensions of family interaction in this model are adaptability and cohesion (Olson, Mccubbin, Barnes, Larson, Muxen, & Wibson, 1985). Family adaptability is defined as "the ability of a marital or family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress" (Olson, Russell, & Sprenkle, 1983, p. 70). There are four levels of adaptability ranging from extremely low (rigid), to moderate (structured, flexible), to extremely high (chaotic). Family cohesion is defined as "the emotional bonding that family members have towards one another" (Olson et al., 1983, p.70). Within the Circumplex Model there are four levels of cohesion ranging from extremely low (disengaged), to moderate (separated, connected), to extremely high (enmeshed).

The two dimensions of cohesion and adaptability with their four levels are arranged orthogonally to form the Circumplex Model. Thus, the Circumplex Model yields 16 possible combinations of cohesion and adaptability. The four types in the center of the model are called Balanced types because they represent a balance between the extremes of the cohesion and adaptability continua. The eight Mid-Ranged family types

are Extreme on one dimension and Balanced on the other. Then finally, there are the four Extreme types. These are families who are existing at either extreme of the cohesion and the adaptability continua at the same time.

The third dimension of The Circumplex Model is family communication. Family communication is seen as critical in facilitating movement along the two dimensions of adaptability and cohesion (Olson et. al., 1979). It is hypothesized that families who are typed in the Balanced area of the Circumplex Model have better communication skills than families in the Extreme types (Walsh, 1993).

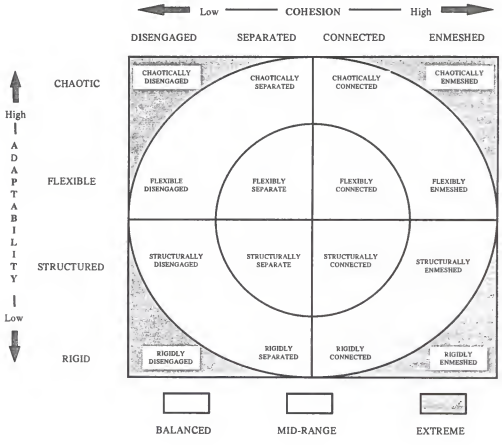


Figure 1 Circumplex Model of Marital and Family Systems

The Circumplex Model assumes there is a curvilinear relationship between the two central dimensions (cohesion and adaptability) and family functioning. Those families who exist in the mid ranges of cohesion and adaptability (Balanced) are hypothesized to be most viable for healthy family functioning and development (Olson, 1989). These balanced families have moderate cohesion (separated, connected) representing a balance between too little closeness (disengaged) and too much closeness (enmeshed) in the family. Similarly, balanced families also have moderate adaptability (structured, flexible) representing a balance between too little change (rigid) and too much change (chaotic) in the family. Families found to range in the extremes of cohesion and adaptability are generally seen as most dysfunctional and problematic in terms of family functioning and development (Olson, Sprenkle, & Russuel, 1979).

Rationale for the Study

This study was theoretically grounded in an eco-systemic theory of self and system development. Bronfenbrenner's (1979) Social Ecological model of human development provided the fundamental theoretical justification for investigating if a relationship between personality (i.e., characteristics of the self) and family functioning (i.e., environmental characteristics of the system), existed across levels of delinquent offending (i.e., social development). The construct of personality was grounded in Jesness's (1996) Jesness Personality Inventory which identified ten personality characteristics and an index of delinquency (Asocial Index). The construct of family functioning was grounded in Olson, Russell and Sprenkle's (1983) Circumplex Model of

Marital and Family Systems as tested by the FACES-II. Thus, this study was guided by a transactional and multilevel conceptualization of delinquency risk and presumed that the development of antisocial behaviors was dependent on the interaction of individual and contextual characteristics (Bronfenbrenner, 1979).

Statement of the Problem

The relationship between family functioning (cohesion and adaptability) as seen through the lens of the family Circumplex model (Olson et. al., 1983) and personality (social maladjustment, manifest aggression, and asocial index) as grounded in the Jesness personality inventory (Jesness, 1996) across rates of delinquency was unknown. The following will address the need for the study.

Need for the Study

As established above, the wide extent and high costs of juvenile offending compounds the urgency for research which contributes to the understanding and ultimate efforts to decrease juvenile delinquency. Research efforts which attempt to further the field of study in juvenile delinquency are considered an excellent investment in the future of our nation that can be postponed only at great cost to society (Bogenschneider, 1996; Committee on Economic Development, Research and Policy, 1987). A theoretically supported question (Bronfenbrenner, 1979) and recognized gap in the field of juvenile delinquent study (Arbuthnot, Gordon, & Jurkovic 1987; Cox, 1996; Jesness, 1996; Jessor, 1991; Le Blanc, 1992; Lorion, Tolan, & Wahlar, 1987; Quay, 1987; Sameroff &

Chandler, 1975; Shaw & Scott, 1991; Tolan, Cromwell, & Brasswell, 1986) of which this study addressed was, "Does a relationship exist between an adolescent's personality and his/her perception of family functioning across his/her rate of delinquent offending while holding age, race and gender constant?"

It was the position of this researcher that if it were known whether this hypothesized relationship existed, there would be implications for theory, research, training, practice and social policy. Such knowledge would encourage critical appraisal of existing theoretical approaches to juvenile delinquency. If no relationship was found, then attention could be paid to expanding the understanding of juvenile delinquency from the theoretical perspectives of personality and family functioning in isolation of each other. Further, no relationship found could be interpreted to challenge the theoretical underpinnings of Bronfenbrenner's (1979) model in regards to juvenile delinquency. If a relationship was found, then further attention could be given to the critical examination of the role of personality and family functioning taken together. This would be consistent with Bronfenbrenner's (1979) Social Ecological model of human development when exploring juvenile delinquency.

This knowledge also could facilitate further research into what is considered critical regions of assessment in juvenile delinquents. For example, the importance of careful and accurate assessment which contributes to juvenile justice correctional decisions (Andrews, Bonta, and Hoge, 1990; Hoge, Andrews, and Leschied, 1995; Jaffe, Leschied, Sab, and Austin, 1985), the ability to target those juveniles who are most in need of limited treatment resources (Farrington, 1995) as well as the areas to be addressed

in a treatment strategy dealing with a juvenile delinquent client (Henggeler, 1989; Loeber, 1990; Mulvey, Arthur, Reppucci, 1993; Tolan and Mitchell, 1989) could all be influenced by the findings of this study. If no relationship was found, researching the significance of assessing personality and family functioning independently regarding the above examples could be pursued. If a relationship was found, further efforts could be made to explore the interaction of personality and family functions when assessing for the above examples. Further, finding a relationship would contribute to the need for research efforts to go beyond the cross-sectional study design, as was the case in this study, to a longitudinal design. This would allow an exploration into what intervals of time one should reassess the relationship between the adolescent's personality and family functioning when addressing the above examples.

The findings of this study could be seen to have implications for counselors in training and in practice when applied to the counseling needs of juvenile delinquents. If no relationship was found, less importance may have been placed in gaining understanding of the relationship between theories of personality and family functioning when considering treatment approaches for the delinquent population. If a relationship was found, greater importance would need to be placed on adopting a more holistic eco-systemic stance including personality and family functioning when considering approaches to counseling and understanding the juvenile population.

Finally, social policy could be influenced by the findings of this study. According to Garbarino (1993), when we are talking about social policy we are talking about what we think is simultaneously desirable and attainable: A statement of will, a statement of

goals, and the social maps that we see giving us the route to attain these goals. Social policy informs clinical practice and it indirectly sets the agenda for clinical practice. Social policy offers a definition of what the issues are, and it shapes the means available to address these issues (Garbarino, 1993). The design of social policy is greatly influenced by fundamental assumptions or conclusions about the nature of both social problems and adolescents. If no relationship was found, grounds to influence the social policies to fund research and programs which have little concern for the interaction of personality and family functioning when dealing with the juvenile delinquent population would be established. If a relationship was found, not only would grounds for funding research and programs which take into consideration the relationship of personality and family functioning strengthen, but also policies instructing state juvenile justice assessment approaches may be influenced to consider the adolescent's personality and family functioning as well.

Purpose of the Study

The purpose of this study was to further efforts in the determination of the existence of a relationship between personality and family functioning across the rate of delinquency. The findings contribute to addressing the recognized gap in the understanding of delinquency and provide information which has theoretical and practical implications for the understanding and future work with the complex and costly problem of Juvenile delinquency.

Research Questions

The independent variables that were included in the collection of original research questions (as listed below) were: age, gender, race, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index. The dependent variable referred to in these research questions was the rate of juvenile delinquency as measured by number of criminal charges. The primary research question addressed in the current study was, "Does a relationship exist between an adolescent's personality and his/her perception of family functioning across his/her rate of delinquent offending while holding age, race and gender constant?" Each listed research question below that pertained to an interaction between personality and family functioning was developed to provide the inferences needed in their own right to address the primary research question. The research questions including interactions were questions 4, 5, 6, 7, 8, and 9. The remaining questions were developed to address age (question 1), gender (question 2), and race (question 3).

However, due to multi-colinearity concerns, of the research questions listed below, 4, 8, and 9 were unable to be addressed. Nevertheless, sufficient inferences needed to address the primary research question was gained through addressing the remaining research questions (5, 6, and 7). All of the corresponding tested hypotheses with their required modifications due to multi-colinearity concerns are presented in chapter 3. The primary changes revolved around limiting the number of variables that were controlled for. The following is a list of the research questions that were originally purposed to be addressed in this study.

1. What is the relationship between age and rate of juvenile delinquency as measured by number of criminal charges while holding gender, race, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index constant?

2. What is the relationship between gender and rate of juvenile delinquency as measured by number of criminal charges while holding age, race, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index constant?

3. What is the relationship between race and rate of juvenile delinquency as measured by number of criminal charges while holding age, gender, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index constant?

4. What is the relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges as one varies across scores of social maladjustment as measured by Jesness personality inventory while holding age, gender, race, adaptability, manifest aggression, and asocial index constant?

5. What is the relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges as one varies across scores of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, adaptability, social maladjustment, and asocial index constant?

6. What is the relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges as one varies across scores of asocial index as measured by Jesness personality inventory while holding age, gender, race, adaptability, social maladjustment, and manifest aggression constant?

7. What is the relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges as one varies across scores of social maladjustment as measured by Jesness personality inventory while holding age, gender, race, cohesion, manifest aggression, and asocial index constant?

8. What is the relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges as one varies across scores of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, cohesion, social maladjustment, and asocial index constant?

9. What is the relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges as one varies across scores of asocial index as measured by Jesness personality inventory while holding age, gender, race, cohesion, social maladjustment, and manifest aggression, constant?

Definition of Terms

For the purposes of this study, the terms listed below were defined as follows:

Adolescence refers to the period of life between childhood and adulthood, and for the purposes of this study referred to those individuals who ranged in age from 13 to 18.

Asocial Index (AI): The asocial index reflects a generalized disposition to resolve social or personal problems in ways that show a disregard for social customs or rules (Jesness, 1996, p. 6). Discriminate Functional Analysis was used to create this scale which combines scores from all the other personality scales to best distinguish

delinquents (Jesness, 1996). For the purposes of this study AI was determined through the use of the Jesness Personality Inventory.

Balanced family types are those families who exist in the mid ranges of cohesion and adaptability. These families are hypothesized to be most viable for healthy family functioning and development (Olson, 1989).

Delinquency, is defined as behavior that has caused or could cause adjudication of a person no older than 18 (Tolan, Cromwell, & Brasswell, 1986).

Delinquent adolescents, for the purposes of this study were adolescents between the ages of 12 and 19 years old who had been charged with a minimum of one illegal offense as filed with the Department of Juvenile Justice.

Development, as defined through the lens of eco-systemic theory is seen as the person's evolving conception of the ecological environment, and his/her relation to it, as well as the person's growing capacity to discover, sustain, or alter its properties (Bronfenbrenner, 1979). Fundamental to this view is the belief that development results as a function of characteristics of the individual and his/her environment (Bronfenbrenner, 1988). For the purposes of this study, increased levels of delinquent offending suggested the presence of less healthy social development.

Eco-systemic theory purports that children are shaped not only by their personal attributes, but also by the ever-widening environments in which they develop (Bronfenbrenner, 1979). Children are influenced first and foremost by their family, but also by their peers, school and communities (Bogenschneider, 1996). From the ecological perspective the environmental influence is not limited to a single, immediate setting, but

is extended to incorporate interconnections between such settings, as well as the external influences emanating from the larger surroundings. Thus, as Bronfenbrenner (1979) noted, research that investigates the adolescent's transactions within different systems greatly facilitates our understanding of the etiology of deviant behavior.

Extreme family types are those families found to range in the extremes of cohesion and adaptability. These families are generally seen as most dysfunctional and problematic in terms of family functioning and development (Olson, Sprenkle, & Russuel, 1979).

Family Adaptability is defined as the extent to which the family system is flexible and able to change its power structure, role relationships, and relationship rules in response to situational and developmental stress (Olson et al., 1985). For the purposes of this study, adaptability was determined by the adaptability score from FACES-II.

Family Cohesion is defined as "the emotional bonding that family members have towards one another" (Olson et al., 1983, p.70). Cohesion incorporates concepts of emotional bonding, boundaries, coalitions, time, space, friends, decision making, interests, and reaction (Olson et al., 1985). For the purposes of this study, cohesion was determined by the cohesion score from FACES-II.

Family functioning for the purposes of this study was grounded in Olson, Russell and Sprenkle's (1983) Circumplex Model of Marital and Family Systems as tested by the FACES-II. The level of family functioning varies from healthy to less healthy as families move form balanced family types to extreme family types respectively.

Family cohesion and adaptability are the core factors making up the construct of family functioning (Olson et. al, 1985).

Manifest aggression (MA): Manifest aggression reflects an awareness of unpleasant feelings (especially anger and frustration), a tendency to react readily with those feelings, and discomfort concerning the presence and control of those feelings (Jesness, 1996, p. 5). For the purposes of this study MA was determined by the score on the MA scale of the Jesness Personality Inventory.

The microsystem refers to a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics (Bronfenbrenner, 1979). Thus, it involves the structures and processes taking place in an immediate face to face setting containing the developing person (e.g., family, school, peer group, workplace, etc.).

Personality for the purposes of this study was grounded in Jesness's (1996) Jesness Personality Inventory. Central to defining the construct of personality in the current study was the asocial index. Further, the personality characteristics of social maladjustment and manifest aggression were included as relevant personality characteristics influencing the development of delinquency (Jesness, 1996).

The proximal influences which are contained within the microsystem and were relevant to the current study included personality and family functioning. These two influences interact to form proximal processes which are viewed to directly effect the course of an individual's development (Bronfenbrenner, 1995).

Social Maladjustment (SM): Social maladjustment refers to a set of attitudes associated with inadequate or disturbed socialization. Here, social maladjustment is defined by the extent to which individuals share attitudes of persons who do not meet personal needs and environmental demands in socially approved ways (Jesness, 1996, p. 5). For the purposes of this study SM was determined by the score on the SM scale of the Jesness Personality Inventory.

Rate of juvenile delinquency for the purposes of this study, was comprised of the total current number of illegal charges with which an adolescent has accrued over their life time as filed within the juvenile court system at the time of data collection. The rate was then delineated by categories of frequency of offending which included: first time offenders (having only one charge), multiple offenders (having 2 to 4 charges) and chronic offenders (having 5 or more charges) (Tracy, Wolfgang, & Figlio, 1990; Wolfgang, Figlio, & Sellin, 1972).

Organization of the Study

The remainder of this study is organized into four chapters. Chapter 2 will present a review of the related literature. Chapter 3 will describe the purpose and methodology containing a statement of purpose, including delineation of relevant variables, hypotheses, data analysis, description of the population, sampling procedures, sample, data collection, and instrumentation. The results of the statistical analysis will be reported in chapter 4. The study will conclude in chapter 5 where there will be a discussion of the results as compared to the literature and the theories utilized.

Chapter 5 will also include a discussion of the limitations of the study, practical implications of the results and recommendations for future research.

CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

Adolescence is marked by dramatic changes in the individual and his/her relationships with significant others and society. It is a time of magnificent promise and insidious risk (Cox, 1996; Jessor, 1991). Adolescence marks a long process of experimentation which is essential to self definition. The adolescent and their family mutually influence each other across time. The adolescent's family must adjust to this process by providing an environment which helps the adolescent to evaluate the outcome of these changes. Overall, adaptions in family organization including changes in cohesion and adaptability are required to meet these tasks of adolescence (Worden, 1991) as the family is transformed from a unit geared to protect and nurture young children to one that prepares them to enter the world of adult responsibilities and commitments (Garcia-Preto, 1988). The interplay or fit between the characteristics of the adolescent and the family become the soil which generates adaptive or maladaptive psychological and social development/functioning (Bronfrenbrenner, 1988; Rutter & Rutter, 1993; Thomas & Chess, 1977; 1980; Lerner, 1982, Worden, 1991).

Bronfenbrenner (1979), who provided the guiding theory of this study, views social development (level of delinquency) as a function of characteristics of the

individual (e.g., personality) and the environment (e.g., family). The present study was designed to test that functional relationship by addressing the question, "Does a relationship exist between an adolescent's personality (i.e., characteristics of the self) and his/her perception of family functioning (i.e., environmental characteristics of the system) across his/her rate of delinquent offending (i.e., social development) while holding relevant factors such as age, gender, and race constant?"

Chapter II will review the relevant literature to provide a context for understanding the relationship between: (a) personality and delinquency, (b) family functioning and delinquency, and (c) Bronfenbrenner's (1979) Eco-Systemic Model of Human Development and delinquency.

Personality and Delinquency

Personality factors have been linked in research to antisocial and delinquent behavior for a long time (Dembo, La Voie, Schmeider, & Washburn, 1987; Eysenck & Gudjonsson, 1989; Farrington, 1990; Fonseca & Yule, 1995; Gold, 1978; Guerra, 1987; Heaven, 1996; Hoge, Andrews, Lesheid, 1994; Jesness, 1996; Roderts, Schmitz, Pinto, & Cain, 1990; Moffitt, 1993; Paris, 1996; Rutter & Giller, 1983; Rutter & Rutter, 1993; Salts, Lindholm, Goddard, & Duncan, 1995; Sorensen & Johnson, 1996; Tolan & Loeber, 1993; Quay, 1987). Jessor (1982), Shaw & Scott (1991) and, more recently, Jensen-Campbell, Graziano, and Hair (1996) have emphasized the importance of recognizing that personality factors are essential to a theoretical understanding of the way in which adolescents with problem behaviors perceive their environment.

For example, recent efforts have operationalized and validated factors relevant to a theory of criminal or antisocial personality to provide a viable explanation for the considerable continuity over time in the relative levels of both offending and antisocial behavior (Farrington, 1990; Frichette & LeBlanc, 1987; Jesness, 1996; Le Blanc, McDuff, Charlebois, Gagnon, & Tremblay, 1991; Lytton, 1990; Shaw & Bell, 1993 and Quay, 1987).

Dembo, LaVoie, Schmeidher, and Washburn (1987) have suggested that to neglect the psychological dimension of the adolescent precludes a deeper understanding of the motivational bases of their behavior. Loeber and Dishion (1983) observed that the general interest in identifying psychological variables related to delinquency stems from the promising proposition that if such variables exist, then children at risk for delinquency could be identified and targeted for preventive intervention.

Part of what makes an individual unique is their distinctive personality. From birth, children are viewed as varying in their constitutional makeup or temperament which provides the foundation of their own unique personality style (Kohnstamm, Bates, & Rothbart, 1989; Garrison & Earls, 1987; Rutter & Rutter, 1993). Personality refers to the pattern that each person, as a thinking being, develops as a way of dealing with their temperamental traits, their encounters with various social contexts, and their life experiences (Rutter & Rutter, 1993). Personality involves sets of cognitions about ourselves, our relationships, and our interactions with the environment which constitute the self-system and contains such qualities as self-esteem, self-efficacy, and social problem-solving skills (Rutter & Rutter, 1993). The core structure of personality is based

in the human inclination to break experience into its fundamental elements to provide reference points in adjusting to the complex stimulus structure of the external world (Sullivan, Grant, & Grant, 1957). The merging of these reference points establishes a basic central reference scheme or cognitive world, in which the experienced world of the person is integrated with, and modified by, personal needs and expectations (Sullivan et al, 1957). Consequently, these expectations, personal needs and hypotheses influence all the individual's interpretations of and responses to the environment (Jesness & Wedge, 1984). Thus, over time, a fairly consistent set of expectations and attitudes is established as an interpreting and working philosophy of life. Sullivan et al, (1957) suggests that it is this nexus of gradually expanding experience, expectations, hypotheses, and perceptions which make up the core of the personality.

Implicit in personality formation is the consistency or stability across time of its makeup within an individual (Brook, Whiteman, Normura, Gordon, & Cohen, 1988; Caspi & Bem, 1990; Tolan & Loeber, 1993). Many researchers have established a link between early temperament and later personality (Caspi, Henry, McGee, Moffitt, and Silva, 1995; Caspi, & Silva, 1995; Lynam, 1996). Tolan and Thomas (1995) reported that Nagin and Farrington's (1992) test of Farrington and West's (in press) Cambridge data suggests that persistent personality traits offered a reasonable explanation for the numbers of convictions for criminal offenses among their 411 urban male sample, which was followed from age 8 to 32. Nagin and Farrington's (1992) results support the contention of Wilson and Herrnstein (1985) and Gottfredson and Hirschi (1990) who state that criminal activity level is primarily due to stable individual differences and not

situational or dynamic characteristics, such as timing of delinquent onset. Tolan and Thomas (1995) and Tolan and Loeber (1993) agree that stable individual characteristics are more influential than dynamic and situational influences, especially for those with more extreme delinquency patterns (e.g., multiple arrests).

Continued evidence supporting the stability of personality over time has strengthened the efforts to identify personality characteristics which differentiate types of delinquents and levels of delinquency (See Mulvey, Arthur, Reppucci, 1993). According to Quay (1987), several studies offer convergent support for a few distinct behavioral subtypes which have shown promising, but mixed results. For example, factor analytic studies of data from behavioral check lists (Achenback & Edelbrook, 1983; Quay & Peterson, 1983) have identified four categories: undersocialized aggressive, socialized aggressive, attention deficit, and anxious withdrawn. Similarly, (Mulvey, Aurthur and Reppucci, 1993), research rooted in the California I-Level system of the 1970's (Jesness, 1971) found three subtypes of delinquents: passive conformist, power-oriented, and neurotic (Palmer, 1974). Gold, (1978), Kaplan, (1980), Wells, & Rankin, (1993) identified lower level of self-esteem as a common personality trait among delinquents. Loeber, (1982), Loeber, (1990), Lorion et al. (1987), Patterson, (1986), and Tolan & Mitchell, (1989) identified elevated measures of aggression as a common trait.

Measures of individual aggression have been viewed as the most useful form of delineating delinquents followed second by indices of family systemic functioning (Tolan, Cromwell, & Brass, 1986; Lorion, Tolan, & Wahlar, 1987). In a review provided by Loeber and Stouthamer-Loeber (1987) it was concluded that 70 to 90 percent of

violent offenders had been highly aggressive when young (Farrington, 1978; Magnusson, Stattin & Duner, 1983; Robins, 1966). Blumstein, Farrington, and Moitra, (1985), Craig and Glick, (1968), Eron and Huesmann, (1990), Farrington (1995), and Pulkkinen, (1983) all reported that elevated levels of aggressive tendencies correlated with violent and chronic delinquent offending.

To illustrate the pervasiveness of aggression in antisocial youth, the following will summerize five constructs of cognitive activity levels or styles related to increased risks of delinquency as provided by Tolan and Loeber (1993). First, antisocial children tend to utilize aggressive social cognitions in evaluating problems (Dodge, 1980; Dodge & Frame, 1982; Guerra, Tolan, Huesmann, Van Acker, & Eron, 1990; Huesmann, 1988; Huesmann & Eron, 1984). Second, antisocial children and adolescents tend to over label individuals' behavior as motivated by aggression and to apply aggressive responses to problem-solving (Dodge & Somberg, 1987). Antisocial children are often less aware of the impact of such behavior on others (Guerra & Slaby, 1990) and are less able to take the perspective of others in social interactions (Guerra, Eron, Huesmann, Tolan, & Van Acker, 1991; Huesmann & Eron, 1984). Third, they evidence limited moral reasoning skills (Guerra & Slaby, 1989,1990), and fourth, a low social skills level is often seen which further contributes to their increased risk for antisocial behavior (Tolan, Pentz, Aupporle, & Davis, 1990).

And finally, fifth, antisocial adolescents tend to have lower ability to generate competent social dilemma solutions, tend to have less competent and less broad range of coping skills (Tolan, Blitz, Davis, Fisher, Schwartz, & Thomas, 1990), and utilize more direct (passive) as well as aggressive coping responses to stress (Tolan & Gorman-Smith, 1991).

While aggression is among the strongest facets of personality useful in delineating risk of delinquency, it is merely one element of a more general antisocial tendency or personality which may arise in childhood and could continue through the teenage and adult years leading to increased offending (Farrington, 1995; West & Farrington, 1977). For example, Hoge, Andrews, and Leshied (1994) utilized a sample of 338 mostly more serious male and female offenders ranging in age from 12-17 to explore the independent contribution of a general antisocial attitude variable in predicting delinquent activity. The authors concluded that an antisocial attitude variable reflecting criminal or otherwise antisocial attitudes, made a significant contribution to the prediction of criminal activity independent of the family and peer association variables. This result was seen as consistent with those reported by Glueck and Glueck (1950) and Guerra (1989) and emphasizes the importance of antisocial/antiauthority/procriminal attitudes and beliefs in the promotion of criminal behavior in young people.

Taking the above personality findings into consideration, the present study utilized Jesness's (1996) Jesness Personality Inventory to operationalize and define the construct of personality. Building on the defining personality work of Sullivan, Grant, and Grant (1957), Jesness identified ten personality characteristics and an index of

delinquency (Asocial Index). Of these personality scales, the current study focused on the social maladjustment (SM), manifest aggression (MA) and asocial index (AI). The primary reasons these three were chosen was the importance of considering facets of personality which pertain to amounts of aggression, the inappropriate usage of aggression and a general antisocial attitudes in the delineation of delinquency.

SM refers to a set of attitudes associated with inadequate or disturbed socialization. Here, social maladjustment is defined by the extent to which individuals share attitudes of persons who do not meet personal needs and environmental demands in socially approved ways (Jesness, 1996). MA reflects an awareness of unpleasant feelings (especially anger and frustration), a tendency to react readily with those feelings, and discomfort concerning the presence and control of those feelings (Jesness, 1996). AI is a personality profile composite score of all 10 personality characteristics reflecting a generalized disposition to resolve social or personal problems in ways that show a disregard for social customs or rules (Jesness, 1996). These three have consistently been found to distinguish among levels of delinquency (Dembo, La Voie, Schmeidler, & Washburn, 1987; Graham, 1981; Jesness, 1996; Kunce & Hemphill, 1983; Martin, 1981; Martin & Murphy, 1993; Sorensen & Johnson, 1996). It is clear from the above review that personality is an important factor in the exploration of delinquency. The following will be a review of what empirical and theoretical role the family plays in the exploration of delinquency.

Family Functioning and Delinquency

Similar to personality factors, family factors have also been found to strongly relate to delinquency in studies and reviews of antisocial and delinquent behavior (Chamberlain & Rosicky, 1995; Hazelrigg, Cooper, & Borduin, 1987; Lauritsen, 1993; Loeber & Hay, 1994; Henggeler, 1989; Johnson, Su, Gerstein, Shin, & Hoffman, 1995; Loeber & Dishion, 1983; Tolan, Cromwell, & Brass, 1986; Wasserman, Miller, Pinner, & Jaramillo, 1996; Loeber & Stouthamer-Loeber, 1986; Loeber, 1990; Snyder & Patterson, 1987; Tolan & Loeber, 1993). Research involving the role of the family in delinquency has been investigated from many different perspectives. Tolan et al (1986) breaks the research down into two primary categories. First, the earlier research focused more heavily on structural variables. Second, and perhaps more of a direct indicator of the family's role in delinquency is family interaction style and emotional atmosphere or more commonly termed, "family functioning" variables. The following will be a review of research findings from the structural and family functioning categories, an explanation of the Circumplex Model of Marital and Family Systems (Olson, Russell, & Sprenkle, 1983) chosen to theoretically conceptualize family functioning, and relevant research findings relating the Circumplex model to delinquency.

Structural Variables

As denoted by Tolan et al (1986), the majority of early research focused on structural variables such as father's absence. Much of the broken home research could be considered to fall under this category. A fairly current comprehensive critique attempting to clarify the relationship between the broken home and juvenile delinquency conducted

by Free (1991) offers an excellent review of this category and broader demographic variables. Free's findings, which are constant with a study conducted by Wells and Rankin (1991), suggest that the broken home is more strongly related to minor offenses than to serious offenses. Further, Free (1991) found that the effects of father absence and the presence of a stepparent on delinquency were inconclusive and some evidence was found supporting variations to the broken home/delinquency relationship depending on gender, race, socioeconomic status, and neighborhood. Inconclusive findings precluded Free (1991) from being able to discern a clear evaluation regarding the impact of the timing of the break (childhood verses adolescence) or reasons for the break (divorce versus death) on delinquency.

A review provided by Yoshikawa (1994), concluded that effects of family structural variables such as broken homes, separation from parents, and number of parents in the family, were indirectly mediated by parenting variables which are often considered variables of family functioning (Bates, Bayles, Bennett, Ridge, & Brown, 1991; Cohen & Brooks, 1987; Craig & Glick, 1963; Laub & Simpson, 1988; Liska & Reed, 1985; McCord, 1979; Patterson, 1982). General findings across the field of delinquency have lead to the conclusion by many in the field that family structure appears to be of little significance in over all juvenile delinquency, especially when controlling for family functioning (Cernkovich & Giordano, 1987; Henggeler, 1989; Lauritsen, 1993; Loeber & Stouthamer-Loeber, 1986; Lorion, Tolan, & Wahlar, 1987; Rosen, 1985; Tolan, 1987 ; Tolan et. al, 1986; Tolan & Loeber, 1993; Tolan & Lorion, 1988 Tolan & Mitchell, 1989; Yoshikawa, 1994).

Thus, as Nye (1958, p.34), an early researcher in the field of delinquency concluded, "It is not the structure of the family per se which is causally related to delinquency, but rather the actual relationships and interactional patterns which are the key variables."

Family Functioning

Family functioning was denoted by Tolan et al (1986) as the more recent and primary category of family variables which play a major role in the development and maintenance of juvenile delinquency. Family functioning variables are mainly seen to consist of qualities including family interactional style and emotional atmosphere. The following is a summary of five family functioning characteristics or interactions within families having antisocial children which distinguish them from other families as outlined by Tolan and Mitchell (1989) and corroborated by many other researchers (Chamberlain & Rosicky, 1995, Henggeler, 1989; Henggeler, Melton, Smith, Foster, Hanely, & Hutchinson, 1993; Lyton, True, Eisen, 1995; McGuffin & Gottesman, 1985; Wasserman, Miller, Pinner, & Jarmillo, 1996; Yoshikawa, 1994).

First, families having delinquents often demonstrate long-standing and high frequency levels of parental conflict, especially around discipline and value directives to the children (Alexander, 1973; Hetherington, Stowie, & Ridberg, 1971; Reiss, 1981; Singer, 1974). These families are often market by inconsistent disciplinary practices and unintentional parental reinforcement (McCord, 1979; Patterson, & Stouthamer-loeber, 1984). Second, the direction of conversations and more importantly the influence of power on family decisions is rarely differentially influenced between parents and children (Alexander, 1973; Hetherington et al., 1971; Minuchin, Montalvo, Gurrney, Rosman, &

Schumer, 1967). Third, family interactions are frequently coercive for all involved (Patterson, 1986). As a result of the coercive nature of relationships, positive expressions seldom occur and they are unlikely to be followed by positive responses (Alexander, 1973). Similarly, Hanson, Henggeler, Haefele, & Rodick (1984), Power, Ash, Schoenberg, and Sorey (1974), and Salts, Lindholm, Goddard, & Duncan, (1995) have all suggested that in general, research supports the observation that families of delinquents tend to exhibit more conflict than families of non-delinquents. Overall, this third point emphasizes a general lack of positive affect in delinquent family interactions.

Fourth, according to Tolan and Mitchell (1989), communication in these families is more often misperceived and labeled as aggressive than in other families (Alexander, 1973). There is a heightened tendency in the entire family to be suspicious of the motivations of others and to assume intentional aggression. This propensity is usually more prominent in the identified patient. Systemically, this leads to less emotional cohesion, especially during times of conflict (Hanson, Henggeler, Haefle, & Rodick, 1984; Henggeler, 1989; Tolan, 1987;1988a; Tolan & Loeber, 1993). The fifth and final discriminating characteristic of these families, is that a large percentage of communication time is dominated by one or two members with an implicit or sometimes explicit message proclaiming a lack of willingness to compromise. Similarly, family problem-solving interactions are often viewed by members as threatening and as a situation of competitiveness rather than joint challenge (Reiss, 1981). In sum, according to this fifth point, it is Tolan and Mitchell's (1989) conclusion that much of the communication is defensive, hostile, and aimed at maintaining one's safety.

Other summaries have listed similar distinguishing characteristics. For example, the review offered by Scholte (1992), found major family risk factors regarding delinquency included: (1) severe family conflict, (2) insecure attachments, (3) poor supervision, (4) nondemocratic child-rearing practices, and (5) antisocial behavior at home. Taking this review of the characteristics of delinquent families into consideration, it is not surprising that many researchers have found between 30 and 40 percent of variation in child antisocial behavior to be due to poor parenting and family interaction variables, (i.e., poor family functioning) (e.g., Baldwin & Skinner, 1988; Patterson, 1986; Patterson, Debaryshe, & Ramsey, 1989; Patterson, Dishion, & Banks, 1984).

The following will be an explanation of the Circumplex model which was used in the current study. This theoretical model will help provide insights into the mechanisms and characteristics within the family system which may effect the level of delinquency.

Circumplex Model of Marital and Family Systems

The current study utilized the Circumplex Model of Marital and Family Systems (Olson, Sprenkle, & Russell, 1979; Olson, Russell, & Sprenkle, 1983, 1989) to theoretically conceptualize family functioning. This model was developed in an attempt to bridge the gap between research, theory, and practice (Olson, 1986). The core components of this systems theory (cohesion and adaptability) were derived out of an attempt to delineate two aspects of marital and family behavior that appear as underlying dimensions for the multitude of concepts in the family field (Olson, Sprenkle, & Russell, 1979).

A review of the literature conducted by Olson et al (1979) brought to light over 50 concepts related to one or both of these dimensions. For example, as illustrated by Edman, Cole and Howard (1990), related to cohesion are Minuchin's (1974) concepts of boundaries, disengagement, and enmeshment, Bowen's (1959) concepts of emotional divorce, differentiation, and emotional fusion, Hess and Handel's (1959) concepts of separateness and connectedness, and Wynne and his colleagues' (1958) concepts of pseudohostility, mutuality, and pseudomuality. Related to adaptability are the Kiernan and Tallman's (1972) concepts of flexibility and spousal adaptability, Wertheim's (1975) concepts of morphostasis and morphogenesis and the Group for the Advancement of Psychiatry's (1970) concepts of role agreement, and flexible leadership. These concepts along with the foundations of general systems theory (Buckley, 1967) have all played a role in the theoretical formulations of family functioning as modeled by the Circumplex model. In the current study, this model was measured through the use of the FACES-II. The following will be an overview of the Circumplex Model of Marital and Family Systems followed by research relating this model to delinquency.

Cohesion and adaptability are the two primary qualities used in the Circumplex model to delineate the levels of family functioning. Family functioning is defined to range from the most healthy or Balance family types, to Mid-Range, to the least healthy or Extreme family types. The level of communication within the family is the third dimension of the model. Communication is hypothesized to facilitate the family's ability to shift upwards from lower levels of functioning or, if poor communication is present, deteriorate to lower levels of family functioning.

To determine a family's overall level of family functioning from this perspective, their quality of cohesion and adaptability must be established. Family cohesion is defined as "the emotional bonding that family members have towards one another" (Olson, Russell, & Sprenkle, 1983, p. 70). Cohesion is seen as varying along a continuum consisting of four basic levels. These levels vary from the extremely low (disengaged), to moderate (separated, connected), to extremely high (enmeshed). Similarly, adaptability is defined to also vary along a continuum consisting of four basic levels. These levels vary from extremely low (rigid), to moderate (structured, flexible), to extremely high (chaotic). Family adaptability is defined as "the ability of a marital or family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress" (Olson et al., 1983, p.70).

To understand the meaning behind the levels of family functioning it is important to understand the central hypothesis to the Circumplex model. This model hypothesizes the existence of a curvilinear relationship between the dimensions of cohesion and adaptability and family functioning (Olson, McCubbin, Barnes, Larson, Muxen, & Wilson, 1985). Thus, as previously outlined, those families who exist in the mid ranges of cohesion and adaptability (Balanced family types) are hypothesized to be most viable for healthy family functioning and development (Olson, 1989). The balanced families have moderate cohesion (separated, connected) representing a balance between too little closeness (disengaged) and too much closeness (enmeshed) in the family. Similarly, balanced families also have moderate adaptability (structured, flexible) representing a balance between too little change (rigid) and too much change (chaotic) in the family.

Families found to range in the extremes of cohesion and adaptability (Extreme family types) are generally seen as most dysfunctional and problematic in terms of family functioning and development (Olson, Sprenkle, & Russuel, 1979). It is also hypothesized that families who are of Balanced type have better communication skills than families in the Extreme types (Olson, 1989). Overall, the Circumplex model is clearly defined and easily measurable (FACES-II) which contributed to its utility in distinguishing levels of family functioning.

The utility and theoretical tenets postulated by the Circumplex model have been substantiated throughout the literature. For example, it has been clearly established that the Circumplex model can reliably discriminate between problem families and non-symptomatic families (Walsh, 1993). Also, Olson (1994) has made a strong case substantiating the underlying curvilinear hypothesis of the Circumplex model.

Further support also exists within the literature for the model's hypothesis which suggests that lower functioning families such as families with delinquents would reflect more troubled communications than higher functioning families. For example, in relation to communication, such families have been associated with inconsistent family communication patterns (Lessin & Jacob, 1984), high amounts of paternal and maternal defensive communication in competitive contexts (Alexander, Waldron, Barton, & Mas, 1989), and generally aggressive and unclear communications styles (Alexander, 1973; Tolan & Mitchell, 1989).

Most relevant to the present study was the support found across several reviews of the Circumplex model's utility to distinguish among levels of delinquency (e.g., Geismar

& Wood, 1986; Henggeler, 1989). Findings similar to the above reviewed have contributed to prominent researchers in the field of delinquency to indorse the Circumplex model as a family systems model of choice in the area of delinquency research and treatment (Henggeler, 1989; Maynard & Hultquist, 1988; Tolan & Lorion, 1988; Worden, 1991). The following will be a review of research findings relating the two central dimensions of the Circumplex Model (adaptability and cohesion) to delinquency.

Adaptability

While still supported, the dimension receiving the least empirical backing has been the adaptability dimension of the Circumplex model. This dimension has not consistently been shown to discriminate between levels of delinquency (Cox, 1996; Hanson, Henggeler, Haefle, & Rodick, 1984, Henggeler, Melton, Smith, Foster, Hanley, & Hutchinson, 1993; Krohn, Stern, Thornberry, & Jang, 1992; Tolan, 1988a). According to Henggeler (1989), this may be due to sampling and measurement differences. While according to Olson (1994), it may be more an artifact of the current likert scale design utilized in the FACES-II.

However, other studies have utilized the FACES and demonstrated a relationship between the extremes of adaptability and levels of delinquency. For example, in a sample of juvenile offenders, Rodick, Henggeler, and Hanson (1986), found that families of delinquents were more chaotic and disorganized. Blaske, Borduin, Henggeler, and Mann (1989) found that the families of adolescent offenders, especially violent offenders, were more rigid and inflexible.

Similarly, the studies of McGaha and Fournier (1988) exploring families having violent offenders and Henggeler, Burr-Harris, Borduin, and McCallum, (1991) studying families with repeat adolescent offenders, each found scores suggesting these families existed in the extremes of adaptability as measured by the FACES. Though mixed findings exist, reviewers have generally concluded that a link appears to exits between adolescent antisocial behavior and both low family adaptability (rigid family structure) and high family adaptability (chaotic family structure) (e.g., Geismar & Wood, 1986; Henggeler, 1989).

Cohesion

The relationship between many different forms of cohesion in family systems and delinquency has been strongly supported in the literature. For instance, Patterson, DeBaryshe, and Ramsey (1989), characterized families of antisocial children to have little parental involvement with their children; Phares and Compas (1992), reported that many researchers have found delinquent families to have conflictual, unaffectionate father son relations and to have generally poor parental relations, and Johnson, Su, Gerstein, Shin, and Hoffman, (1995) determined that research has consistently shown that a low degree of parental support (i.e., parental interest, understanding, supervision, discipline, encouragement and love) is a key determinant of poor psychosocial adolescent functioning including delinquency. Further, Krohn, Stern, Thornberry, and Jang (1992), Moffitt (1993), Lauritsen (1993), and Salts, Lindholm, Goddard, and Duncan, (1995) have all concluded that low family cohesion or low family attachment bonds were among the strongest predictors of delinquent and persistent antisocial behavior.

Other examples strengthening the link between family cohesion and delinquency are Shaw and Bell's (1993) conclusions that family factors involving discipline and the quality of parent-child relations are at the for front of meta-analyses in the delinquency field and Rosen's (1985) determination that after a comprehensive review of the literature, no matter how delinquency is defined or measured or what population is being studied, the research consistently shows that poor parent-child relationships, no matter how defined or measured are associated with higher levels of delinquency. And finally, Tolan, Cromwell, and Brass (1986), concluded that the literature strongly demonstrates family cohesion and parental discipline as the variables which most strongly differentiated levels of delinquents second only to individual aggression.

Similarity, research specifically reporting on the cohesion dimension of the Circumplex model has also shown a consistent relationship between levels of cohesion and levels of delinquency. For example, a study conducted by McGaha and Fournier (1988) found that families having violent offenders exist in the extremes of cohesion as measured by the FACES. A study conducted by Henggeler, Melton, Smith, Foster, Hanley and Hutchinson (1993) with a sampled of 87 serious juvenile offenders from disadvantaged families, found cohesion correlated with non-violent and violent offending. Further, while studying general delinquency, Maynard and Hultquist (1988) found that among their small sample of delinquents, 44 percent of the families fell in the extreme range, 48 percent were mid-range, and 2 percent were in the balanced range. Maynard and his associate concluded that from their sample it would seem deviant behavior of the youths may be indicative of overall family dysfunction.

These findings are consistent with other researchers findings in that FACES scores tend to be in the extreme ranges of cohesion for families with delinquent youth (Hanson, Henggeler, Haefle, & Rodick, 1984; Rodick, Henggeler, & Hanson, 1986; Tolan, 1988a).

Following that the current study explored the rate of delinquency, of particular interest were findings surrounding rates of delinquency and cohesion as measured by the FACES. For example, Druckman (1979) found that juveniles in her study with the highest recidivism rates came from families in the extreme enmeshed category. Henggeler, Burr-Harris, Borduin, and McCallium (1991) researching families with repeat adolescent offenders, also found scores indicating these families existed in the extremes of cohesion. Finally, Cox (1996) concluded that her results indicated the frequency of arrest not severity of crime most correlated with extremes of the cohesion range. Cox (1996) also reported, though not statistically significant, that severity of crime correlated negatively with a measure of self-esteem.

Overall, the presented studies and other reviews (e.g., Geismar & Wood, 1986; Henggeler, 1989) support the existence of a relationship between levels of adolescent antisocial behavior and both low family cohesion (disengaged family structure) and in a few cases, for high family cohesion (enmeshed family structure). In sum, the empirical literature provides ample support for the utility of the Circumplex model to distinguish levels of delinquency and to provide insight into the relationship between family functioning and delinquency.

The following review of Bronfenbrenner's (1979) holistic eco-systemic model of human development outlines the theoretical grounds utilized to justify the current study's exploration of the existence of a relationship between family functioning and personality across the rate of delinquency.

Eco-Systemic Model of Human Development

Bronfenbrenner's ecological paradigm, first introduced in the 1970s (Bronfenbrenner 1974, 1976, 1977, 1979), represented a reaction to the restricted scope of most research then being conducted by developmental psychologists (Bronfenbrenner, 1994). According to Bronfenbrenner (1994) the primary scientific aim of this ecological approach is not to claim answers, but to provide a theoretical framework that, through its application, will lead to further progress in discovering the processes and conditions that shape the course of human development. Many researchers in the field of juvenile delinquency have recognized Bronfenbrenner's (1979) Eco-Systemic Model of Human Development as a viable frame to explain the need for a multivariate approach in the understanding, treatment, and prevention of juvenile delinquency (Bogenschneider, 1996; Henggeler, 1989; Lerner, 1991; Liddle, 1995; Magnusson, 1995; Moffitt, 1993; Salts, Lindholm, Goddard, & Duncan, 1995; Mulvey, Arthur, Reppucci, 1993; Paris, 1996; Reid, 1993; Tolan & Loeber, 1993; Yoshikawa, 1994; Worden, 1991).

The current study utilized Bronfenbrenner's model to justify the investigation of the existence of a relationship between personality (i.e., characteristics of the self) and family functioning (i.e., environmental characteristics of the system) across levels of delinquent offending (i.e., social development).

The following will be a discussion of Bronfenbrenner's (1979) Eco-Systemic Model with a focus on the proximal influences of family functioning (in particular cohesion and adaptability) and personality on development. This will be followed by a discussion of the theorized reciprocal nature of personality and family functioning and their possible risk and protective influences on development. The section will close with an explanation of the eco-systemic position of "goodness of fit" as related to one's developmental outcome. Relevant research from the field of juvenile delinquency will be included throughout this discussion.

Bronfenbrenner's (1979) Eco-Systemic Model has at its foundation the premise that human development occurs as a joint function of characteristics of the person and the environment. In essence, this model theorizes that a complexity of multiple factors, rather than a single factor, influences human development and social functioning. A relevant area of support for this position has been the discovery that the development of delinquency is a result of many complex interacting factors (Benda, 1987; Bogenschneider, 1996; Calabrese & Adams, 1990; Marsh, Clement, Stoughton, & Marckioni, 1986; Jesness, 1996; Salts, Lindholm, Goddard, & Duncan, 1995; Tolan & Loeber, 1993; Tolan, Cromwell, & Brass, 1986; Worden, 1991). According to Bronfenbrenner's model, the multiple factors of influence on development emanate from

several levels of the ecosystem. These levels vary from those directly including the individual to more distal factors within the environment not necessarily including the individual. Bronfenbrenner (1979) describes the ecosystem to be a topologically nested arrangement of concentric structures with each containing the next. As previously reviewed, these structures are referred to as micro-, meso-, exo-, and macrosystems. The microsystem was most relevant to the current study and will be the focus of the current literature review.

The microsystem refers to a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics (Bronfenbrenner, 1979). Thus, it involves the structures and processes taking place in an immediate face to face setting containing the developing person (e.g., family, school, peer group, workplace, etc.). For example, beyond the previously established relationship of personality and delinquency and family functioning and delinquency, is evidence relating ones peer group (Elliot et al., 1985; Erickson & Jensen, 1977; Dodge, 1980; Patterson & Dishion, 1985; Tolan, 1988b; Tolan, 1990; Tolan & Loeber, 1993), School (Hawkins & Lam, 1987; Salts, Lindholm, Goddard, & Duncan, 1995;), job site (Duster, 1987; Fagan & Wexler, 1987; Hirschi, 1969; Tolan, 1988b), Church (Higgins & Albrecht, 1977), and community (Bogenschneider, 1996) to levels of delinquency.

Bronfenbrenner, (1988) considers the most influential forces on human development to be the proximal environmental and organismic influences within the microsystem. These proximal influences emanate either from within the person, or from

physical features, objects, and persons in the immediate face to face setting (Bronfenbrenner, 1988). The two proximal influences of focus in the current study were the adolescent's personality and the adolescent's family functioning. The relationship between these two proximal influences along with other various variables of influence on development were theorized to be reciprocal in nature and to culminate into the forces determining the outcomes of development (Bronfenbrenner, 1979).

The basic nature of the relationship between the influencing variables on development is described in Bronfenbrenner's (1995) two defining properties of his ecological systems theory. As previously reviewed, according to Proposition 1, especially in its early phases, and to a great extent throughout the life course, human development is seen to takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment. According to Bronfenbrenner (1995), in order for these interactions to be effective, they must occur on a regular basis over extended periods of time. These enduring forms of interaction in the immediate environment are between the proximal influences and are referred to as proximal processes. Examples of enduring patterns of proximal processes are found in parent-child and child-child activities, groups or solitary play, reading, learning new skills, studying, athletic activities, and performing complex tasks (Bronfenbrenner, 1995).

Further, according to Proposition 2, the form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the biopsychological characteristics of the developing person; of the environment, both

immediate and more remote, in which the processes are taking place; and the nature of the developmental outcomes under consideration (Bronfenbrenner, 1995). Thus, as many researchers from the eco-systemic approach have supported, rather than view the primacy of one factor over another's influence on developmental outcomes, more a reciprocal interaction of factors would be expected to exist (Bogenschneider, 1996; Borduin, Pruitt, Henggeler, 1985; Bronfenbrenner, 1995; Calabrese & Adams, 1990; Cohen & Siegel, 1991; Dadds, 1987; Farrington, 1995; Henggeler, 1989; Lerner, 1991; McLeod, Kruttschnitt, & Dornfield, 1994; Wasserman, Miller, Pinner, & Jaramillo, 1996; Magnusson, 1995; Paris, 1996; Sameroff, 1975; Shaw & Bell, 1993; Tolan & Leober, 1993; Walsh, Craik, & Price, 1992). The following will be a discussion of the relationship between the proximal influences of family functioning (in particular cohesion and adaptability) and personality.

Relationship Between Family Functioning and Personality

Psychological health was the focus of much of the earlier work exploring the relationship between family functioning and developing children and adolescents. For example, Minuchin, Rossman, and Baker's (1978) work lead them to conclude that the emotional boundaries of family members (i.e., cohesion) and family adaptation to developmental and external pressures (i.e., adaptability) appear to have a curvilinear relationship to the psychological health of family members. The extremes in either parameter, according the Minuchin et al. (1978) appeared to characterize dysfunctional family systems and to contribute to poor psychological health.

This conclusion, especially in relation to cohesion, has since been supported by many others in the field (Amerikaner, Monks, Wolfe, & Thomas, 1994; Barnes & Farrell, 1992; Farrell & Barnes, 1993; Farrell, Barnes, Banerjee, 1995; Lin, Dean, & Ensel, 1985; Prange, Greenbaum, Silver, Friedman, Kutash, & Duchnowski, 1992; Walsh & Olson, 1989).

Other researchers have focused on the relationship of family functioning and personality development in specific. For example, similar to Bronfenbrenner (1979), Loevinger (1976) purports that personality or ego development is stimulated by the interpersonal environment, especially the intrafamilial environment. Loevinger theorized that parents can function as pacers or factors of equilibrium in their child's ego growth. More recently, Novy, Gaa, Frankiewicz, Liberman, and Amerikaner, (1992) working from Loevinger's theory, sampled 61 nonchronic juvenile offenders and their parents and found an association between FACES-II scores of cohesion and adaptability and the juvenile offender's level of ego development. Results revealed functional levels of family functioning were associated with higher levels of ego development while lower levels of ego development were associated with both the parent's and the adolescent's view of a dysfunctional range of cohesion and adaptability. Some variations were reported by Novy et al. (1992) depending on match or mismatch of parental and adolescent view of family functioning.

A further example of specific work exploring the importance of the quality of family interactions in ego development is a study conducted by Hauser, Powers, Noam, Jacobson, Weiss, and Follanshee (1984). These researchers found that family interactions

emphasizing warmth, acceptance, and understanding tend to support higher levels of ego development and identity clarification in adolescents. Further, Hauser et al. (1984) concluded that the absence of such positive interactions and the presence of their negative counterparts (devaluing, indifference) are associated with diminished levels of adolescent ego development.

In general, consistent support has been found to demonstrate that the extremes of the cohesion and adaptability dimensions are more associated with poor development of personality, while more functional levels of cohesion and adaptability are more associated with healthy development of personality (e.g., Beavers, 1977; Prange, Greenbaum, Silver, Friedman, Kutash, & Duchnowski, 1992; Walsh & Olson, 1989).Thus, the eco-systemic position of a hypothesized relationship between the proximal influences of family functioning and personality could be interpreted to have empirical support. The focus of this review now turns to literature more specifically supporting the hypothesized reciprocal nature of the relationship between the two proximal influences of personality and family functioning.

Reciprocal Nature of Variables on Development

The reciprocal nature of the relationship between family functioning and personality can be interpreted to gain support through a study conducted by Smets and Hartup (1988). The primary goal of their study was to explored the relationship between cohesion and adaptability and child symptomatology while controlling such factors as personality. Their sample consisted of 120 families and their children who ranged between the ages of 6 and 16. All of these families were referred to one of six out patient

clinics in Northern Wisconsin for treatment. Smets and Hartup (1988) reported that extreme range scores on the FACES-II for cohesion and adaptability were associated more with low self-esteem than were midrange family functioning scores. The results could be seen to supported the position that a child's self-esteem and sense of self-efficacy is tied to their family system.

Further, Smets and Hartup (1988) emphasized that due to the correlational nature of the statistics used, caution is necessary when attempting to make causal interpretations. The authors suggested that low self-esteem (and concomitant behavioral manifestations) may be disruptive factors within the family, but the reverse may also be true. Thus, a reciprocal model may be seen to exist. The dysfunctional family system may lower the self-esteem of the child, but at the same time, the defensive tactics used by the children with low feelings of self-worth probably also reduce the effectiveness of the family system to function.

Similarly, according to Wasserman, Miller, Pinner, and Jaramillo, (1996) grounds exist supporting the view that the juxtaposition of a difficult child (e.g., impulsive, aggressive) with an adverse family context (e.g., incompetent parenting) may initiate risk for a persistent pattern of oppositional and antisocial behavior through a transactional or reciprocal process between the family and the child. Other researcher have concurred with this interpretation (e.g., Cicchetti & Richters, 1993; Conduct Problems Prevention Research Group, 1992; Moffitt, 1993).

In sum, the evidence provided by Smets and Hartup (1988) and Wasserman, Miller, Pinner, and Jaramillo, (1996) are consistent with many other researchers who

have supported the reciprocal nature of family functioning and personality on the outcome of development (Bronfenbrenner, 1979; Brooks, Whiteman, Normura, Gordan, & Cohen, 1988; McLeod, Kruttschnitt, & Dornfeld, 1994; Lerner & Spanier, 1978; Tolan & Mitchell, 1989; Shaw & Bell, 1993; Wasserman, Miller, Pinner, & Jaramillo, 1996). The following section will bring to light the possible influences of the protective and risk factors associated with family functioning and personality on development. This is seen to further strengthen the existence of a possible relationship between family functioning and personality upon the rate of delinquency.

Protective and Risk Factors

The complex impact on the course of development that the existence of a reciprocal relationship between family functioning and personality appear to have is further strengthened by evidence of each factor's risk and/or protective influences. According to Bogenschneider (1996) the acknowledgment of possible risk and protective aspects of variables on the outcome of development is an important facet to an eco-systemic orientation. The following will be a review of the defining properties of protective and risk influences along with possible specific family functioning and personality examples of these influences on delinquency.

Protective factors are qualities or conditions that moderate a juvenile's exposure to risk (Wilson & Howell, 1994). They are considered by both Garmezy (1985) and Rutter (1990) to mitigate the impact of risk on adolescent behavior and development. In essence, their role is to modify the response to later adversity rather than to foster normal development in any direct sense (Rutter, 1985). However, this does not imply that

protective factors can not impact development directly (Farrell, Barnes, & Banerjee, 1995). Risk factors on the other hand are qualities or conditions that directly contribute to dysfunction (Rutter, 1990). Thus, in general, protective factors or processes are not simply the opposite if risks; protective processes do not load directly to an outcome, as risks do, but rather operate when a risk is present (Rutter, 1987).

Further, it can be seen as evident that risk factors operate in a cumulative and interactive fashion. This is based on a review of several longitudinal studies exploring the impact of multiple risks on child development and delinquency (Yoshikawa, 1994). According to Yoshikawa (1994), a multiplicative, rather than simply additive, relation is often found between the number of risk factors and likelihood of dysfunction. Risk factors can interact (or, to use Rutter's (1979) term, "potentiate" each other) to greatly increase chances of later dysfunction. For example, Kolvin, Miller, Fleeting, and Kolvin (1988) explored multiple risk factors measured during the first 5 years of a Newcastle, England, Birth cohort of 847 children. It was found that the mean number of criminal offenses committed up to the age of 33 was 0.7 for those with no risk factors present, 2.9 for those with one or two, and 5.1 for those with 3 or more. These findings are consistent with other studies exploring the cumulative impact of multiple risk factors and level of antisocial behavior (Leober, 1990; Saner & Ellickson, 1996).

Across the literature protective and risk factors have been categorized by several authors in similar ways. These include Jessor's (1991) social environment and personality domains, Wilson, JD, and Howell's (1994) individual characteristics, bonding (inside and outside the family), and healthy beliefs and clear standards of behavior categories, Moen

and Erickson's (1995) social and personal resources, Garmezy's (1985) personality features, family cohesion, and external support features, and Bogenshneider's (1996) breakdown by individual, family, peer, school, work setting, and community levels. Consistent across all of these examples is the inclusion of an individual level and an environmental level. This parallels the eco-systemic position that development results from a function of forces including the individual and the environment. The following review of protective and risk factors as related to levels of delinquency will focus on family functioning and personality influences.

Qualities of family function which may act as protective factors indirectly contributing to a decreased level of delinquency include: healthy levels of family cohesion or family bonds (Bogenshneider, 1996; Hirschi, 1969, Garmezy, 1985, Jessor, 1991; Moen & Erickson, 1995; Paris, 1996; Rosen, 1985; Rutter, 1979; Wilson, JD, & Howell, 1994), effective and nurturing parenting (Farrington & West, 1981; Liddle, 1995; McCord, 1986; Pulkkinen, 1983), clear standards of family behavior (Wilson, JD, & Howell, 1994), the absence of family discord (Garmezy, 1985; Hirschi, 1969, Moen & Erickson, 1995; Rutter, 1979), and intimate family communication (Hirschi, 1969). Qualities of family function which may act as risk factors directly contributing to an increased level of delinquency include: insecure attachments (Bogenscheider, 1996; Campbell, 1990), chaotic family environment (Paris, 1996), parental instability (Paris, 1996), poor parent child rearing practices (Bogenschneider, 1996; Leober, 1990; Paris, 1996), unclear family rules, expectations, and rewards (Bogenschneider, 1996), and general family dysfunction (Leober, 1990; Paris, 1996). These examples provide a similar

profile to the Circumplex model. Thus, is would appear that aspects of the balanced regions of cohesion and adaptability could act similarly to protective factors while, the extremes could act similar to the risk factors.

Qualities of personality which may act as protective factors indirectly contributing to a decreased level of delinquency include: positive self-esteem (Bogenschneider, 1996; Heaven, 1996; McFarlane, Bellissimo, & Norman, 1994; Schweitzer, Seth-Smith & Callan, 1992), resilient temperament (Rutter, 1990; Wilson, JD, & Howell, 1994), psychological hardiness (Kobasa, 1979; Amerikaner, Monks, Wolfe, & Thomas, 1994), health temperamental, cognitive, and emotional resources (Quay, 1987), high value on academic achievement (Jessor, 1991), healthy beliefs and a clear standard of behavior (Wilson, JD, & Howell, 1994), high intolerance of deviance (Jessor, 1991), altruism and basic values (Moen & Erickson, 1995), well developed social and intellectual skills (Bogenschneider, 1996), and a positive social orientation (Wilson, JD, & Howell, 1994). Qualities of personality which may act as risk factors directly contributing to an increased level of delinquency include: antisocial/antiauthority/procriminal attitudes (Farrington, 1995; Glueck & Glueck, 1950; Guerra, 1989; Hoge, Andrews, & Leshied, 1994; Jesness, 1996), high levels of alienation or rebelliousness (Bogenschneider, 1996) high levels of aggression (Blumstein, Farrington, & Moitra, 1985; Craig & Glick, 1968; Eron & Huesmann, 1990; Farrington, 1995; Pulkkinen, 1983), having multiple factors of Asocial personality disorder or factors of Conduct disorder (Paris, 1996), impulsive disposition (Kagan, 1994), and high behavioral activation levels (Paris, 1996). These examples provide a similar profile to the personality characteristics assessed in the

current study. Thus, this would imply that varying levels of the SM, MA, and AI scales in the Jesness Personality Inventory may also represent risk factors when extremely elevated.

The above review provides considerable evidence of the multiple way in which an interaction between characteristics of family functioning and personality may be expressed as forms of risk and protective factors influencing each other and development. In essence, protective and risk factors contribute to the reciprocal dance between the proximal influences and may effect the odds or probabilities that the levels of delinquent offending may vary. Protective and risk factors are another facet of the eco-systemic orientation which suggests that there may existence an interaction between family functioning and personality on the rate of delinquency. The following section will provide insight into how the eco-systemic model emphasizes the quality of the relationship or "goodness of fit" between the individual and environment which may contribute to the individual's developmental outcomes.

Goodness of Fit

The protective and risk influences along with the reciprocal nature of family functioning and personality are viewed to contribute to the forces shaping the outcome of development. These factors add to the complexity of the fit between the individual and the environment. According to the eco-systemic model, the overall "goodness of fit" between the characteristics of a living organism and its surroundings may result in the formation of adaptive or maladaptive psychological and social functioning (Bronfenbrenner, 1988; Lerner, 1982; Rutter & Rutter, 1993; Thomas & Chess, 1977;

1980; Worden, 1991). In general, during the interaction of intrapersonal dynamics with interpersonal forces, if a child's characteristics match (or fit) the demands of a particular setting, adaptive outcomes may accrue, but if a "poor fit" between environmental expectations and demands and the capacities of the child at a particular level of development exist, disturbed behavioral functioning may instead manifested (Thomas & Chess, 1980; Worden, 1991).

When considering a developmental outcome, Bronfenbrenner's (1995) Eco-Systemic Model of Human Development recommends factoring into the evaluation the "goodness of fit" for the individual throughout the interaction between many characteristics of the individual and multiple levels of the environment over time. Thus, as strongly supported by the empirical literature, Bronfenbrenner's (1979) overall view of criminal behavior is that it is multi-determined by the reciprocal interplay of characteristics of the individual youth and the key social systems in which the youths are embedded (i.e., family, peer, school, neighborhood, community) (Bogenschneider, 1996; Elliot, 1994; Hawkins & Catalano, 1993; Henggeler, 1989, 1996; Thornberry, Huizinga, & Loeber, 1995; Tolan & Guerra, 1994).

Further, the eco-systemic model theorizes that playing a dominate role in this process are the proximal influences located within the microsystem (Bronfenbrenner, 1979). Thus, the eco-systemic model provided the theoretical justification for the current study's examination of the existence of a relationship between the proximal influences of family functioning and personality upon the rate of delinquency.

Summary

In summary, a review of the literature was presented which included significant theoretical and empirical evidence relating personality, family functioning and Bronfenbrenner's (1979) eco-systemic model of human development to rate of juvenile delinquency. A significant gap in the literature exists regarding the exploration of the existence of a relationship between personality and family functioning across the rate of delinquency (Arbuthnot, Gordon, & Jurkovic, 1987; Jesness, 1996; Le Blanc, 1992; Lorion, Tolan, & Wahlar, 1987; Mulvey, Arthur, & Reppucci, 1993; Tolan, Cromwell, & Brass, 1986). Bronfenbrenner's (1979) Eco-Systemic Model of Human Development was presented to provide the theoretical justification for the current study's attempt to fill this gap through addressing the question "Does a relationship exist between an adolescent's personality (i.e., characteristics of the self) and his/her perception of family functioning (i.e., environmental characteristics of the system) across his/her rate of delinquent offending (i.e., social development) while holding relevant factors such as age, gender, and race constant?"

CHAPTER THREE
METHODOLOGY

This chapter will address the following topics: (a) statement of purpose, (b) relevant variables, (c) hypotheses, (d) data analysis, (e) description of the population, (f) sampling procedures, (g) sample, (h) data collection, and (i) instrumentation.

Statement of Purpose

This study is based on the eco-systemic view that children are shaped not only by their personal attributes, but also by the ever-widening environments in which they develop (Bronfenbrenner, 1979). Central to the course of social development is the interplay between proximal characteristics of the child and their environment (Bronfenbrenner, 1988). Yet to be fully explored in the field of delinquent study is the possible existence of a relationship between two relevant proximal influences known as personality and family functioning. This study was designed to investigate the existence of a relationship between personality and family functioning across the rate of juvenile delinquency.

Delineation of Relevant Variables

Dependent Variable

The dependent variable was the adolescent's rate of juvenile delinquency. It was comprised of the total number of illegal charges with which an adolescent has accrued over their life time as filed within the juvenile court system at the time of data collection. This variable was broken into three frequencies of offending which included: first time offender (having only one charge), multiple offender (having 2 to 4 charges) and chronic offender (having 5 or more charges) (Hindelang, Hirschi, & Weis, 1981; Tracy, Wolfgang, & Figlio, 1990; Wolfgang, Figlio, & Sellin, 1972). Utilizing frequency is a method of measurement common in delinquency research and has shown high reliability and validity (Cox, 1996; Lau & Leung, 1992; Leug & Drasgow, 1986; Lynam, 1996; Smith, Visher, & Jarjoura, 1991; Spiuack, Marcus, & Swift, 1986). The utilization of official records of one's frequency of charges was chosen following that official records of arrests or court contacts are the most widely reported figures used in the literature (Mulvey, Arthur, & Reppucci, 1993).

Independent Variables

Age, for the purposes of this study was defined as the listed length of time one has been alive as provided by the respondent in whole numbers on the demographic questionnaire. The role of age in understanding delinquency has been fraught with inconsistent findings. For example, Hindelang, Hirschi, and Weis, (1981) used National Crime Survey data for 1973-1977 and documented very dramatic age specific variations in differences of delinquent crime rates. Tolan and Loeber (1993) reported age correlates

positively in adolescence with the overall prevalence of antisocial involvement with a peak at age 16 for serious offending and dropping off around 17-19. Smith, Visher, and Jaroura (1991) found age among active offenders did not relate to the frequency of delinquency activity. From a different view, Smets, and Hartup (1988) and Olczak, Parcell, and Sttot (1983) both made very strong cases to control for age due to the possible developmental difference effecting family relations and ultimately levels of delinquency.

Gender, for the purposes of this study was defined as the indication of male or female on the demographic questionnaire by the respondent. The role of gender in understanding delinquency has been debated in the literature (see Yoshikawa, 1994). Many researchers have found males to have higher rates of offending both according to official records and self-report data (Canter, 1982; Elliot, Huizinga, & Menard, 1989; Hindelang, Hirschi, & Weis, 1981; Sander & Ellickson, 1996; Smith, Visher, & Jaroura, 1991; Tracy, Wolfgang, & Figlio, 1990; Werner & Smith, 1992) while others have found no difference in delinquency as a result of gender (Blumstien, Alfred, Cohen, Roth, & Visher, 1986; Shaw & Scott, 1991). Recently, though only one in four juveniles were female in the state of Florida during 1994-95, female juvenile crime increased at a faster rate (55%) than male juvenile crime (23-26%) in Florida during 1994-95 (Department of Juvenile Justice, 1996).

Further gender difference supported by research include, the view that families of female delinquents are more dysfunctional than families of male delinquents (Henggeler, Edwards, & Borduin 1987) and that male delinquents are found to be more vulnerable than girls to family risk for antisocial behavior and delinquency (Rutter & Giller, 1983; Yashikawa, 1994; Zaslow & Hayes, 1986).

Race, for the purposes of this study was defined as the indication of Caucasian (White), African American (Black), Hispanic or other by the respondent on the demographic questionnaire. The focus of this review will be on findings for White and Black adolescents because these two ethnic groups made up 95% of the available data sample and constituted all of the reduced sample analyzed in this study.

Predictors such as low levels of family affection and high levels of family conflict have been found to be associated with White and Black levels of general delinquency (Doane, 1978; Gove & Crutchfield, 1982; Henggeler, 1989; Salts, Linholm, Goddard, & Duncan, 1995; Tolan & Lorion, 1988). When considering family cohesion, dysfunctional levels reflecting enmeshed family systems have been associated with high levels of offending in the Black youth (Rodick, Henggeler, & Hanson, 1986) while extremely low levels reflecting disengaged family systems have been associated with high levels of offending for White adolescents (Tolan, 1988a). Differences in frequency rates have also been found based on race (Elliot, Huizinga, & Ageton, 1985; Smith, Visher, & Jarjoura, 1991; Tolan & Loeber, 1993; Hindelang, Hirschi, & Weis, 1981).

For example, Elliot and Ageton (1980) and Short (1990) found significantly greater delinquent and violent behavior for Black youth than White when utilizing police and court data. Interestingly, self-report studies consistently have been found to reflect no difference in delinquent behavior by race (Salts, Linholm, Goddard, & Duncan, 1995).

Adaptability, was defined as the extent to which the family system was flexible and able to change its power structure, role relationships, and relationship rules in response to situational and developmental stress (Olson et al., 1985). For the purposes of this study, adaptability was determined by the adaptability score from FACES-II.

Cohesion, was defined as "the emotional bonding that family members had towards one another" (Olson et al., 1983, p.70). Cohesion incorporates concepts of emotional bonding, boundaries, coalitions, time, space, friends, decision making, interests, and reaction (Olson et al., 1985). For the purposes of this study, cohesion was determined by the cohesion score from FACES-II.

Social maladjustment scale (SM), Social maladjustment referred to a set of attitudes associated with inadequate or disturbed socialization. Here, social maladjustment was defined by the extent to which individuals shared attitudes of persons who did not meet personal needs and environmental demands in socially approved ways (Jesness, 1996, p. 5). For the purposes of this study SM was determined by the score on the SM scale of the Jesness Personality Inventory.

Manifest aggression scale (MA), Manifest aggression reflected an awareness of unpleasant feelings (especially anger and frustration), a tendency to react readily with those feelings, and discomfort concerning the presence and control of those feelings

(Jesness, 1996, p. 5). For the purposes of this study, MA was determined by the score on the MA scale of the Jesness Personality Inventory.

Asocial index (AI), The asocial index reflected a generalized disposition to resolve social or personal problems in ways that showed a disregard for social customs or rules (Jesness, 1996, p. 6). Discriminant Function Analysis was used to create this scale which combines scores from all the other personality scales to best distinguish delinquents (Jesness, 1996). For the purposes of this study AI was determined through the use of the Jesness Personality Inventory.

Hypotheses

The following is a presentation of the original hypotheses proposed and the modified hypotheses that were tested in this study. Modifications were made to the original hypotheses due to concerns of multicolinearity found in the original full logistic regression model. While modifications resulted in hypotheses 4, 8, and 9 being left untestable, the remaining hypotheses differed simply by the number of variables being controlled during analysis.

Ho_1: (Original) There is no relationship between age and rate of juvenile delinquency as measured by number of criminal charges while holding gender, race, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index constant.

(Tested)There is no relationship between age and rate of juvenile delinquency as measured by number of criminal charges while holding gender, race, cohesion, manifest aggression, and asocial index constant.

Ho_2: (Original) There is no relationship between gender and rate of juvenile delinquency as measured by number of criminal charges while holding age, race, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index constant.

(Tested) There is no relationship between gender and rate of juvenile delinquency as measured by number of criminal charges while holding age, race, cohesion, manifest aggression, and asocial index constant.

Ho_3: (Original) There is no relationship between race and rate of juvenile delinquency as measured by number of criminal charges while holding age, gender, adaptability, cohesion, social maladjustment, manifest aggression, and asocial index constant.

(Tested) There is no relationship between race and rate of juvenile delinquency as measured by number of criminal charges while holding age, gender, cohesion, manifest aggression, and asocial index constant.

Ho_4: (Original and Untestable) The relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of social maladjustment as measured by Jesness personality inventory while holding age, gender, race, adaptability, manifest aggression, and asocial index constant.

Ho_5: (Original) The relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, adaptability, social maladjustment, and asocial index constant.

(Tested) The relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, and asocial index constant.

Ho_6: (Original) The relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of asocial index as measured by Jesness personality inventory while holding age, gender, race, adaptability, social maladjustment, and manifest aggression constant.

(Tested) The relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of asocial index as measured by Jesness personality inventory while holding age, gender, race, and manifest aggression constant.

Ho_7: (Original) The relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of social maladjustment as measured by Jesness personality inventory while holding age, gender, race, cohesion, manifest aggression, and asocial index constant.

(Tested) The relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of social maladjustment as measured by Jesness personality inventory while holding age, gender, and race constant.

Ho_8: (Original) The relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, cohesion, social maladjustment, and asocial index constant.

(Tested) The relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, cohesion, social maladjustment, and asocial index constant.

H_{o_9}: (Original and Untestable) The relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of asocial index as measured by Jesness personality inventory while holding age, gender, race, cohesion, social maladjustment, and manifest aggression, constant.

Data Analysis

Multinomial logistic regression was used to evaluate the significance of variance explained in the dependent variable (rate of juvenile delinquency) by combinations of this study's set of selected independent variables [age (A), gender (G), race (R), adaptability (ADP), cohesion (C), social maladjustment (SM), manifest aggression (MA), and asocial index(AI)]. Forms of multinomial regression analysis such as multinomial logistic regression analysis are supported in the delinquency literature as statistical methods useful in exploring multivariate models of delinquency (Farrington, 1994; Hoge, Andrews, & Leshied, 1994; Salts, Linholm, Goddard, & Duncan, 1995; Scholte, 1992; Tolan, 1987; Tolan & Lorion, 1988; Wasserman, Miller, Pinner, & Jaramillo, 1996). The use of multinomial logistic regression analysis allowed the analysis of the relationships between the independent variables while controlling for the other independent variables of interest. The following multinomial logistic regression model was originally purposed:

Rate of delinquency = A+G+R+C+ADP+SM+MA+AI+C,AI+ADP,AI+C,SM+C,MA+ADP,SM+ADP,MA

Due to discovering multi-colinearity concerns (strong correlations between certain variables within the full original model), the full model was modified to form two reduced multinomial logistic regressions models (Model 1 & Model 2). Model 1 was designed to primarily address hypotheses 1, 2, 3, 5, and 6. Model 2 was run to provide information regarding the primary nature of hypothesis 7. As stated earlier, hypotheses 4, 8, and 9 were left untestable. The following were the modified multinomial logistic regression models run in analysis:

Model 1: Rate of delinquency = A+G+R+C+MA+AI+C,AI+C,MA

Model 2: Rate of delinquency = A+G+R+ADP+SM+ADP,SM

The following basic procedural format was followed in the analysis. Upon discovering that the general model was significant at the $\alpha = .05$ level, the conclusion was made that at least one of the independent variables in that model of focus was related to the dependent variable while controlling for the other independent variables. The next step in analysis was then to review the partial logistic regression coefficients corresponding to the hypotheses for significance at the $\alpha = .05$ level. Consistent with socio-ecological research (Bronfenbrenner, 1979), the significance of any interaction term in one of the multinomial logistic regression models was of greatest interest. According to Bronfenbrenner (1979), the interactional emphasis of the eco-systemic approach is due to the theoretical view that there exists a reciprocal nature to development especially between the proximal influences.

Thus, of greatest concern was the interaction terms which contained the theoretically and empirically relevant aspects of the adolescent's personality and perception of family functioning.

Finding a significant interaction term was interpreted as statistical evidence to reject that term's null hypothesis (no relationship exists) and instead was seen as statistical evidence in favor of accepting that terms alternative hypothesis that a relationship does exist. Evidence resulting in rejecting an interaction term was interpreted to provide statistical grounds to suggest that (at a probability greater that chance) the answer was "yes" to the primary research question, "Does a relationship exist between an adolescent's personality and his/her perception of family functioning across his/her rate of delinquent offending while holding age, gender, and race constant?"

The analysis run also included multiple single variable logistic regression models to explore the relationship between each independent variable and the dependent variable. This multiple bivariate analysis was seen to add to the investigation of the independent variables with the dependent variable and allowed for a comparisons between the bivariate and the multinomial logistic regression models (1&2) which contain more control variables.

Description of the Population

The population specifically targeted for this study was adolescents involved in the Department of Juvenile Justice system in the State of Florida who range in age between 13 and 18. The entire research sample was drawn from this group. The Department of

Juvenile Justice (DJJ) (1996) provided the following demographics for the year's total population of delinquency cases received in the state of Florida: (a) regarding age - 88% of the cases were filed for adolescents ranging in age between 13 and 18, (b) regarding gender - 77% of all cases consisted of male adolescents and 23% consisted of female adolescents, and (c) regarding race - 57% were White, 42% were Black, and 1% were other.

Sampling Procedures

Data were collected from two separate DJJ districts which included 16 counties located geographically in North Central Florida. The data were collected by a private counseling agency who specializes in counseling the juvenile delinquent population. This agency routinely collected assessment information for the purposes of research and treatment. All of the cases referred to this private agency for counseling were received from the DJJ. Thus, the subjects for this study were drawn from the total data file previously collected by this private agency during the period 4/1/96 to 8/31/96. The data made available for this study had no identifying information to assure the confidentiality of the subjects to be included in this study.

The questionnaires were administered during the first interview by the agency counselors. These counselors were (at a minimum) all advanced graduate students (beyond Master's level) in training in mental health fields at the University of Florida. Prior to interviewing the court referred clients, each counselor received agency training in administering the questionnaires.

The clients were verbally informed that any information used for research purposes would have no identifying information to assure their anonymity.

Sample

The full sample available for this study was previously collected by a private agency drawing from the 16 surrounding counties in North Central Florida between 4/1/96 to 8/31/96. Though the full sample consisted of 184 subjects, this sample was reduced to 169 due to an insufficient number of subjects in all ethnic categories for comparisons and some subjects falling outside the study's defined age range (13 to 18). The reduced sample included only subjects from the White and Black ethnic groups. As consistent with an earlier census of this private agency's clientele (Lee & Prichard, 1991), 80% of the subjects lived in families with income below poverty level as determined by receiving AFDC/ Welfare or not.

Family structures varied from those having a single parent and one child to those having both parents or a variation of grandparents and multiple siblings. The vast majority lived in a non-nuclear family configuration. This wide variation in family structure was not viewed to be of great concern due to the findings that family structure appears to be of little significance in overall juvenile delinquency especially when controlling for family functioning (Cernkovich & Giordano, 1987; Henggeler, 1989; Lauritsen, 1993; Lorion, Tolan, & Wahlar, 1987; Rosen, 1985; Tolan et. al, 1986; Tolan & Loeber, 1993; Tolan & Mitchell, 1989; Yoshikawa, 1994).

The analyzed sample, was fairly representative in demographics to the year's total population of delinquency cases received in the State of Florida: (a) regarding age, the subjects range between 13 and 18 years old which is consistent with the majority of cases referred to juvenile court, (b) regarding gender, 78% of subjects consist of male adolescents and 22% consist of female adolescents, and (c) regarding race, 47% of subjects were White and 52%were Black. The subjects range between 1 and 36 charges with the majority of subjects ranging between 1 and 9 charges. There also appeared to exist a sufficient number of subjects in the three levels of offending to be studied: 41 subjects are first time offenders (having only one charge), 48 subjects are multiple offenders (having 2 to 4 charges), and 80 subjects are chronic offenders (having 5 or more charges).

Data Collection

The data were collected through a private counseling agency which asked referred clients in the initial interview to complete the assessment package containing the Jesness Personality Inventory Question (see Appendix A) and JI Answer Sheet (see Appendix E), the Family Adaptability and Cohesion Scales (FACES-II) (see Appendix B) and a demographic information sheet (see Appendix C). The assessment took approximately 35 to 45 minutes to complete. The Florida Department of Juvenile Justice provided information in reference to number of charges for each subject. The identifying information was removed and a participant code was given.

Each assessment package was put in its own data packet for research purposes. The data packets were scored and analyzed by this researcher.

Instrumentation

In addition to a demographic questionnaire (Appendix C) assessing number of charges, county, income status, gender, age, race, and current family members at home, there were two standardized instruments relevant to this study: (a) Jesness Personality Inventory (Appendix A & F) and (b) Family Adaptability and Cohesion Scales (FACES-II, Appendix B).

Jesness Personality Inventory

The independent variables for the construct of personality in the study included, social maladjustment (SM), manifest aggression (MA), and asocial index (AI). These were measured by the Jesness Personality Inventory (JI). The original version of the JI was developed as part of the Fricot Ranch Study in California (Jesness, 1965, 1971) which was a five-year project whose goal was to evaluate the effectiveness of an intensive institutional treatment program for young male delinquents. The study was sponsored by the Rosenburg Foundation through a grant to the California State Youth Authority. The original norming and validation studies were based on a sample of 970 male delinquents and 1,075 male nondelinquents between the ages of 8 and 18, and on a sample of 450 female delinquents and nondelinquents ranging in age from 11 to 18. All delinquents were adjudicated, and most were awaiting placement in California Youth Authority (CYA) institutions. The nondelinquent sample was obtained at 10 public

schools in northern California (Jesness, 1996). In the early 1960s, the JI was modified so that it could be used with older male adolescents (Jesness, 1962, 1963), and further revised in 1972 making the instrument appropriate for use with adults and for females (Jesness, 1983). The most recent changes to content were made in 1986 (Jesness, 1996).

The JI is an easily administered 155 item true-false inventory written at the third grade reading level (Sorensen & Johnson, 1996). It is useful in identifying personality characteristics of delinquents. The JI is multidimensional in that it provides age-normed T scores on ten of eleven personality characteristics and a graphic profile that illustrates various personality types. It also provides a single index (AI) of personality tendencies predictive of social and personality problems (Martin & Murphy, 1993). Three personality characteristics are criterion referenced trait scales (social maladjustment, value oriented, and immaturity) and seven are cluster analyzed personality scales (autism, alienation, manifest aggression, withdrawal-depression, social anxiety, repression, and denial) and one (asocial index) is a composite personality index derived from discriminant analysis to predict level of delinquency status utilizing all the other scale scores (Jesness & Wedge, 1983).

The JI has been supported by many research findings in the field as a valid and reliable instrument for distinguishing among delinquents via personality characteristics (Jesness, 1996). While general support for reliability and validity will be reviewed, focus will be give to the SM, MA and AI scales due to their use in this study. Jesness (1996) reports a test-retest (8 months) reliability of .79 for SM and .76 for MA based on a sample of 131 delinquents ages 14 to 21. Wright and Jesness (1981) reported a test-retest

reliability (one week) of .74 for AI. Note was made in the Jesness Inventory manual manual (Jesness, 1996) regarding concern for the test-retest reliability for AI on children below 15 for long periods of time. Regarding alpha reliabilities, Le Blanc, Mcduff, Charlebois, Gagnon, & Tremblay, (1991) reported .90 for SM and .82 for MA. Further, exploring the ability to falsify JI responses, the JI was administered to 57 delinquents at a CYA reception center under the instructions that the findings would be solely for research purposes (honest run). The next day the JI was given again with the instructions that the findings would be used to judge the kids with the goal to encourage them to answer in a way favorable for themselves (fake good run). Results revealed fairly stable scores with some variation in SM, but no change in over all composite AI score (Jesness, 1996).

According to Le Blanc (1990), the concurrent, discriminant, and predictive validity of the JI scales were controlled on a sample of 6,604 adolescents between the ages of 10 and 18. Most of the scales correlated higher with scales of their domain than with scales from another domain, most of the scales discriminated between past, actual and subsequent self-reported delinquency and problem behaviors, and, finally, that most of them distinguished between presence or absence of official delinquency and adult criminality. Similarly, a review by Quay (1987) provides considerable evidence supporting the concurrent, convergent, and predictive validity of the JI. Quay's review includes numerous findings reported by Baker and Spielberg (1970), Cowden, Peterson and Patch (1969), Graham (1981), Martin (1981) , Saunders and Davis (1976), Vallance and Forrest (1971) and Yiannakis (1976). Quay (1987) concluded that the JI promises to represent a valuable addition to the delinquency research's armamentarium.

In general, the bulk of the research on the JI is in the area of differentiating groups of delinquents. For instance, Cowden, Peterson, and Pacht (1969), found the JI cores differentiated well-adjusted from poorly adjusted youth within an institution; Stott and Olczak (1978) showed that JI scales differentiated juvenile delinquents from status offenders; Sauders and Davis (1976) found that certain sub scales differentiated between institutionalized delinquents and probationers; Graham (1981) found that consistently higher AI scores distinguished among levels of offending (first offense, 2 offences, more than 2) and found the AI predicted who of the first time offenders would re-offend in a one year follow up; Martin (1981) found that consistently higher AI, SM, VO, AU, MA and DEN scores distinguished among levels of institutionalized delinquents (those formally adjudicated by the court system for two or more charges and those not formally charged) and a socially acting out noninstitutionalized control group; and finally Kunce and Hemphill (1983) investigated the validity implications of the JI for 1,122 institutionalized male adolescent delinquents and found that AI, SM, AU, and MA correlated positively with frequency of prior arrests and number of previous institutionalizations. Consistent with a review conducted by Quay (1987), the results of this review of the Jesness Inventory found ample support for the use of the JI for research, diagnostic purposes and the general assessment of adolescent social maladjustment.

Administration of the JI requires a question booklet (Appendix A), an answer sheet (Appendix E) and a pencil. Currently there is available a "QuickScore Form" which illuminates the need for the scoring stencils (Jesness, 1996). The traditional method was used in the collection of the available data for this study. Respondents were asked to read

the question sheet and fill in the appropriate true or false response on the answer sheet. Emphasis was made to assure they knew there are no right or wrong answers.

The traditional method for scoring was used as opposed to the recently released QuickScore Form method. To traditionally score the test requires (1) a set of ten scoring stencils; (2) a set of norms for males and females of all ages; and (3) profile sheets (see Appendix F). The scales were scored by placing stencils over the answer sheet. Raw scores were obtained by totaling the number of marked responses that showed through the stencils for each scale. These totals were written in the proper spaces on the answer sheet. The raw score for each subject was then transferred to the profile sheet. The Asocial Index was obtained using the computational box on the reverse side of the profile sheet. The AI was derived by utilizing the conversion table of the profile sheet to finding the various weighted scores based on the required JI scale raw scores. The next step was to determine the T scores by locating the T-score equivalent of each raw score in the manual tables matching the subjects age and sex. The AI score was found by taking the raw AI score and matching it in the manual table to gain the converted score. These converted scores were then plotted on the profile sheet. Due to the current study not utilizing the I Level Classification, the I Level Classification scoring process will not be reviewed.

Family Adaptability and Cohesion Scales (FACES-II)

The independent variables of cohesion and adaptability were measured by FACES-II. The original version was developed by Olson, Russell, and Sprenkle in 1979 as an outgrowth of their Circumplex Model of Marital and Family Systems. Using factor

analysis and alpha reliability, the scale was reduced from 90 items to 50. In 1983, the 50 item scale was administered to 2,400 individuals in Olson's study of normal families across the family life cycle (Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson, 1985), and with factor analysis and alpha reliability analysis, the scale was reduced to 30 items. In 1989, the FACES-III was developed and currently the FACES IV is to be completed by the summer of 1999 (personal communication, L. Knutson, December, 1998). For the current study, Olson advised that the FACES-II be utilized (personal communication, D. Olson, February 1996).

FACES-II is a 30 item instrument written at the seventh grade level which allows children as young as 12 to easily understand the items (Olson, Pontner, & Bell, 1985). Of the 30 items, 16 measure cohesion and 14 measure adaptability. Two items on each of the following eight concepts relate to cohesion: emotional bonding, family boundaries, coalitions, time, space, friends, decision making, interests/recreation. Two or three items for the six concepts relate to adaptability: assertiveness, leadership, discipline, negotiation, roles, and rules (Smart, Chibucos, & Didier, 1990).

FACES-II has been used in a variety of instances with large numbers of adult and adolescent family members. Olson, McCubbin, Barnes, Larsen, Muxen, and Wilson, (1985) reported in regards to the reliability of FACES-II, internal consistency for the whole scale came to .90 and test-retest reliability (4-5 weeks) was .83 for cohesion and .80 for adaptability. Very good evidence is reported for the face and content validity and good evidence (linear relationship) is reported for the concurrent validity (Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson, 1985).

The FACES-II can be administered on an individual or total family member basis (Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson, 1985). The FACES-II was administered to the referred adolescent only in the current available data sample. This was interpreted as consistent with the Bronfenbenner's (1979) eco-systemic theory. Bronfenbenner (1979) highlights that when considering the environmental influences (i.e., family), what matters for behavior and development is the environment as it is "perceived" rather than as it may exist in "objective" reality. Therefore, in the current study, only the adolescent's view on the FACES-II was required and utilized.

The respondents were asked to read the statements and decide for each one how frequently, on each scale that ranges from 1(almost never) to 5 (almost always), the described behavior occurred in his/her family. Linear scoring and interpretations were used based on the recommendations of Olson and Wilson (1991). Olson and Wilson (1991), reported that it is appropriate to utilize the same cutting points for the four levels of cohesion and adaptability. However, Olson and Wilson (1991) also reported that the categories of enmeshed and chaotic are no longer measured. Instead, "very connected" and "very flexible" are more appropriate concepts for scores in that range. Further, once adaptability and cohesion are converted into a Family Type score ranging from 1 to 8, the Family types now range from Extreme type to Mid-range to Moderately Balanced to highest scores reflecting a Balanced Family Type. This would allow the optional use of the Three-Dimensional Family Circumplex Model (See Olson & Wilson, 1991).

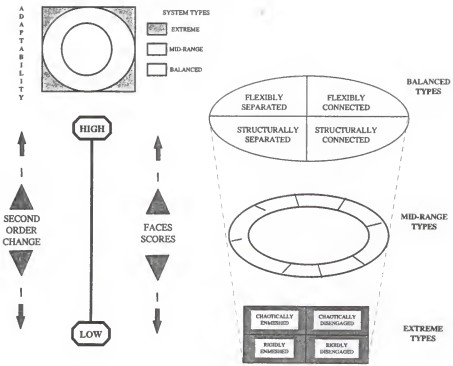


Figure 2 Three-Dimensional Family Circumplex Model

The following will present the linear method of scoring the FACE II that was used in the current study. For cohesion, the first step was to sum items 3, 9, 15, 19, 25, and 29 and subtract that figure from 36. The second step was to sum all other odd numbers plus item 30. The third step was to add the figure from step 1 and step 2 to obtain a total cohesion score. The final range of an individual score on cohesion should be between 15-70. Adaptability was done in a similar fashion. The first step was to sum items 24 and 28 and subtract that figure from 12. The second step was to sum all other even numbers except item 20. The third step was to add the figure from step 1 and step 2 to obtain the adaptability score. The final range of an individual score on adaptability should be between 15-70.

After obtaining the total cohesion and adaptability scores, the corresponding 1-8 score for each dimension on the "Linear Scoring and Interpretation" chart (Appendix D) were located. The family type (score range 1-8) was obtained by adding the 1-8 Cohesion and Adaptability scores and dividing by 2. For the purposes of the current study the linear score totals for cohesion and adaptability were utilized.

Summary

Chapter 3 clarified the statement of purpose, the relevant variables that were included in the study, the hypotheses, and the data analysis. Also included was a description of the population, the sampling procedures used, the sample analyzed, the data collection procedures, and the instrumentation utilized. Chapter 4 will review the procedures utilized in the current study and present the descriptive and inferential findings of the study as they related to the research questions and hypotheses posed.

CHAPTER 4
RESULTS

Introduction

This study was designed to address the question, "Does a relationship exist between an adolescent's personality (i.e., characteristics of the self) and his/her perception of family functioning (i.e., environmental characteristics of the system) across his/her rate of delinquent offending (i.e., social development) while holding relevant factors such as age, gender, and race constant?" An answer to this question could have wide implications for theory, research, training, practice and social policy. The findings of this study will also contribute to the literature on juvenile delinquency.

Bronfenbrenner's (1979) Social Ecological Model of Human Development provided the theoretical justification for exploring the existence of this relationship. The central premise of Bronfenbrenner's model is that human development occurs as a joint function of characteristics of the person (e.g., personality) and the environment (e.g., family functioning). Of specific focus in this study was the proximal influences of personality and family function upon rate of juvenile delinquency. The construct of personality was grounded in Jesness's (1996) Jesness Personality Inventory which was the assessment instrument used to attain the scores on the social maladjustment scale (SM), manifest aggression scale (MA) and asocial index (AI).

The construct of family functioning was grounded in Olson, Russell and Sprenkle's (1983) Circumplex Model of Marital and Family Systems and the FACES-II inventory which was the assessment instrument used to assess family cohesion and adaptability.

This study's available sample was comprised of 184 juvenile delinquents who were previously assessed by a private counseling agency. To conform to this study's defined age range (13 to 18), 7 subjects outside this age range were removed. Further, due to an insufficient number of subjects within all ethnic categories collected, the sample was reduced by an additional 8 subjects to permit comparisons of White and Black subjects only. Thus, data analysis was run on the reduced sample of 169 subjects.

The purpose of this chapter is to report the findings. This chapter also contains further descriptive statistics of the sample utilized for analysis and of subject performance on the assessment instruments across the rates of offending. Finally, a review of the data analysis and a discussion of this study's research hypotheses are discussed in terms of outcome testing.

Demographic Characteristics of the Research Sample

The following will provide the descriptive statistics of the data. The descriptive statistics illustrated are sectioned by categorical variables and interval variables. The categorical variables included gender and race. The interval variables included age and the scores on adaptability, cohesion, social maladjustment, manifest aggression, and asocial index. Descriptive statistics are also provided for the categorical dependent variable (rates of offending).

Descriptive Data on Categorical Variables

Gender

The total sample of 184 juvenile delinquents was primarily comprised of males. There were 143 males (78%) and 41 females (22%). Due to an insufficient number of subjects to represent the other ethnicities, the sample was reduced to 169 subjects which included 13 to 18 year old adolescents who were of White and Black ethnicity. The reduced sample for analysis consisted of 131 males (78%) and 38 females (22%). Though males far out numbered the females in this sample, this ratio is consistent with the percentages for the total population reported for Florida (77% males & 23% females) by the Florida Department of Juvenile Justice (1996). Table 1 indicates the frequency of males and females across the level of delinquent offending within the analyzed sample.

Table 1
Frequency Distribution by Gender and Level of Delinquent Offending

Gender	n n (%)	First Time Offender n (%)	Multiple Offender n (%)	Chronic Offender n (%)
Male	131 (78)	23 (14)	38 (22)	70 (41)
Female	38 (22)	18 (11)	10 (6)	10 (6)
Total	169 (100.00)	41 (24)	48 (28)	80 (47)

Ethnicity

Of the total sample (184 subjects), 49% (n = 91) identified themselves as Black, 46% (n = 85) identified themselves as White, 2% (n = 3) identified themselves as Hispanic and 3% (n = 5) identified themselves as other. Though the percentages of White and Black subjects far out way the percentages of other ethnic groups, this is fairly consistent with the percentages for the total population reported in Florida (57% White, 42% Black, and 1% were other.) by DJJ (1996). However, due to an insufficient number of subjects in the other ethnic categories for comparisons, the sample was reduced to include only White and Black subjects. The reduced sample for analysis consisted of 53% (n = 89) who identified themselves as Black and 47% (n = 80) who identified themselves as White. Table 2 indicates the frequency of males and females across the ethnic categories within the analyzed sample.

Table 2
Frequency Distribution by Gender and Ethnicity

Gender	n n (%)	White n (%)	Black n (%)
Male	131 (78)	64 (38)	67 (40)
Female	38 (22)	16 (9)	22 (13)
Total	169 (100.00)	80 (47)	89 (53)

Descriptive Data on Interval Variables

The following will be a comparison of the interval variables across both the rates of offending and the total crime means within each rate. The rate was delineated into categories of frequency of offending which include: first time offenders (having only one charge), multiple offenders (having 2 to 4 charges) and chronic offenders (having 5 or more charges) (Tracy, Wolfgang, & Figlio, 1990; Wolfgang, Figlio, & Sellin, 1972). The categorical dependent variable will be used to organize the illustration for the descriptive statistics conducted upon the interval variables. There were 41 subjects at the first time offender rate, 48 subjects at the multiple offender rate, and 80 subjects at the chronic offender rate. The total crime means across each of the three rates of offending were a mean of 1 for first time offenders, 2.8 for multiple offenders, and a mean of 9.46 for chronic offenders. The remaining descriptive statistics relate to the sample of 169 subjects analyzed unless otherwise stated. Table 2 indicates the descriptive data compiled on the interval variables (age, cohesion, adaptability, SM, MA, AI, and rate of offending).

Age

Subjects in the analyzed sample ranged in age form 13 to 18 years old. The mean age for first time offenders was 15.10 (SD = 1.74). The mean age for multiple offenders was 15.58 (SD = 1.46). The mean age for chronic offenders was 16.02 (SD = 1.44).

Cohesion Scale

The FACES-II was utilized to assess family cohesion. The linear scoring and interpretations were used based on the recommendations of Olson and Wilson (1991). Olson and Wilson (1991) reported the cutting points for the four levels of cohesion

remain the same, except the category of enmeshed is no longer measured. Instead, "very connected" is a more appropriate concept for scores in that range. The raw cohesion scores were used in analysis. Cohesion scores range from a low of 15 to 50 reflecting the extreme range (disengaged), scores of 51 to 70 reflecting the mid-ranges (separate and connected) and scores of 71 to 80 reflecting the very connected range of cohesion.

Descriptive analysis revealed that the mean cohesion score for the analyzed sample was 52.06 (SD = 12.37). The mean cohesion score for first time offenders was 55.44 (SD = 13.85). The mean cohesion score for multiple offenders was 48.58 (SD = 11.73). The mean cohesion score for chronic offenders was 52.41 (SD =11.51).

Adaptability Scale

The FACES-II was utilized to assess family adaptability. The linear scoring and interpretations were used based on the recommendations of Olson and Wilson (1991). Olson and Wilson (1991) reported the cutting points for the four levels of adaptability remain the same, except the category of chaotic is no longer measured. Instead, "very flexible" is a more appropriate concept for scores in that range. The raw adaptability scores were used in analysis. Adaptability scores range from a low of 15 to 39 reflecting the extreme range (rigid), scores of 40 to 54 reflecting the mid-ranges (structured and flexible) and scores of 55 to 70 reflecting the very flexible range of adaptability.

Descriptive analysis revealed that the mean adaptability score for the analyzed sample was 43.34 (SD = 8.6). The mean adaptability score for first time offenders was 44.36 (SD = 9.65). The mean adaptability score for multiple offenders was 41.54 (SD = 9.66). The mean adaptability score for chronic offenders was 43.90 (SD = 7.32).

Social Maladjustment Scale

The Jesness Personality Inventory was utilized to assess the social maladjustment score. In order to conduct statistical analysis, the raw SM scores were converted to T-scores that generally range from 20 to 90. Scores elevated beyond a T-score of 50 are considered to be more indicative of a personality profile consistent with increased juvenile offending. Descriptive analysis revealed that the mean social maladjustment score for the analyzed sample was 68.30 (SD = 14.77). The mean social maladjustment score for first time offenders was 65.17 (SD = 13.24). The mean social maladjustment score for multiple offenders was 69.79 (SD = 14.22). The mean social maladjustment score for chronic offenders was 69.01 (SD = 15.73).

Manifest Aggression Scale

The Jesness Personality Inventory was utilized to assess the manifest aggression score. In order to conduct statistical analysis, the raw MA scores were converted to T-scores that generally range from 20 to 90. Scores elevated beyond a T-score of 50 are considered to be more indicative of a personality profile consistent with increased juvenile offending. Descriptive analysis revealed that the mean manifest aggression score for the analyzed sample was 56.36 (SD = 12.71). The mean manifest aggression score for first time offenders was 55.80 (SD = 13.33). The mean manifest aggression score for multiple offenders was 57.20 (SD = 12.20).The mean manifest aggression score for chronic offenders was 56.14 (SD = 12.82).

Asocial Index

The Jesness Personality Inventory was utilized to assess the asocial index. In order to conduct statistical analysis, the appropriate procedures were utilized to derive the AI raw score which was then converted to the AI standard score. The standard scores can range from 25 to 90. Standard scores elevated beyond 50 are considered to be more indicative of a personality profile consistent with increased juvenile offending. For example, Jesness (1996) reports a standard score of 66 is 90% accurate in classifying individuals as delinquent verses non-delinquent. Descriptive analysis revealed that the mean asocial index score for the analyzed sample was 67.16 (SD = 14.40). The mean asocial index for first time offenders was 65.39 (SD = 14.21). The mean asocial index for multiple offenders was 65.93 (SD = 14.19).The mean asocial index for chronic offenders was 68.81 (SD = 14.60).

Table 3
Descriptive Data on Interval Variables

Factor by Offender Rate	Total Crime Mean	n	M	SD
Age				
First	1.00	41	15.10	1.74
Multiple	2.86	48	15.58	1.46
Chronic	9.46	80	16.02	1.44
Total	5.53	169	15.67	1.56
Cohesion Scale (FACES-II)				
First	1.00	41	54.44	13.85
Multiple	2.86	48	48.58	11.73
Chronic	9.46	80	52.41	11.51
Total	5.53	169	52.06	12.37

Table 3
(Continued)

Factor by Offender Rate	Total Crime Mean	n	M	SD
Adaptability Scale (FACES-II)				
First	1.00	41	44.36	9.65
Multiple	2.86	48	41.54	9.66
Chronic	9.46	80	43.90	7.32
Total	5.53	169	43.34	8.60
Social Maladjustment Scale (Jesness Personality Inventory)				
First	1.00	41	65.17	13.24
Multiple	2.86	48	69.79	14.22
Chronic	9.46	80	69.01	15.73
Total	5.53	169	68.30	14.77
Manifest Aggression Scale (Jesness Personality Inventory)				
First	1.00	41	55.80	13.33
Multiple	2.86	48	57.20	12.20
Chronic	9.46	80	56.14	12.82
Total	5.53	169	56.36	12.71
Asocial Index (Jesness Personality Inventory)				
First	1.00	41	65.39	14.21
Multiple	2.86	48	65.93	14.19
Chronic	9.46	80	68.81	14.60
Total	5.53	169	67.16	14.40

Inferential Statistical Analysis Procedures

All data were analyzed using SYSTAT for Windows: Statistics, Version 7.0 Edition. As described in Chapter 3, logistic regression was the form of regression utilized

due to the dependent variable being categorical. Simple single variable logistic regression models were utilized to investigate the bivariate relationships between each independent variable and the levels of the dependent variable. Multinomial logit analyses were also conducted to investigate the primary research questions. Wald chi square was the test statistic for each logistic model. Following that all hypotheses were non directional, the Type I error rate was established at the $\alpha = .05$ level of significance (i.e., $p < .05$) (Mason & Bramble, 1989). This established significance level determined the basis upon which the decisions were made either to accept or reject the null hypotheses.

To address the nine hypotheses, the original proposed full multinomial logistic regression model was designed to include as the main effect independent variables: age (A), gender (G), race (R), adaptability (ADP), cohesion (C), social maladjustment (SM), manifest aggression (MA), and asocial index (AI). The interaction terms were to include C, AI + ADP, AI + C, SM + C, MA + ADP, SM + ADP, MA. The subject's rate of offending was identified as the dependent variable. The multinomial logistic regression method would statistically control each listed independent variable while considering the significance of other input variables in that model.

However, upon verification of the assumptions corresponding to the use of logistic regression analysis on the purposed full model, multi-colinearity concerns were found to exist between adaptability and cohesion ($r = .62$) and SM with both MA ($r = .76$) and AI ($r = .64$). As a result, adaptability and SM were removed from the full logistic regression model and run in a separate logistic model which also included race, gender and age. Adaptability was chosen to be removed from the full original model due to

cohesion's stronger support in the delinquency literature. SM was removed from the full original model to allow more personality variables to remain in the modified Model 1.

These modifications to the original full logit model rendered untestable hypotheses 4, 8, and 9. However, while the number of variables controlled for was reduced, alternate logit models were run which allowed the primary comparisons proposed in hypotheses 1, 2, 3, 5 and 7 to be addressed.

The main multinomial logistic regression model (Model 1) was developed to address the primary nature of hypotheses 1, 2, 3, 5, and 6. For the purposes of exploring the relationships between the removed independent variables (adaptability and SM) and delinquency, a second logistic regression model (Model 2) was run. Model 2 was run to provide information regarding the primary nature of hypothesis 7. The modified logistic regression models run did provide the statistical inferences needed to address this study's primary research question exploring the existence of as relationship between personality and family functioning across rate of delinquency. The following will be a review of the bivariate comparisons, the multinomial logistic regression models run and the results discussed in relation to the hypotheses in question.

Bivariate Logistic Comparisons

Multiple single variable logistic regression models were run to explore the relationship between each independent variable and the dependent variable. The purpose of these comparisons was to explore the significance of the relationship between each independent variable and the rates of offending. The primary limitation of multiple bivariate comparisons verses including all the independent variables in the same model

was the loss of controlling for variance explained in the dependent variable by the other empirically or theoretically relevant independent variables. Therefore, the confidence in the inferences made regarding the variance explained as a result of the independent variable in bivariate analysis was more limited. Despite this weakness, multiple bivariate analysis added to the investigation of the independent variables with the dependent variable and allowed for a comparisons between the bivariate and the multinomial logistic regression models (1&2) which contain more control variables.

The results of the bivariate analysis revealed significance was achieved gender, chi-square = 14.06, $p < .05$; and cohesion, chi-square = 6.71, $p < .05$. Significance was not achieved for age, race, adaptability, SM, MA, or AI at $p < .05$. Table 3 summarizes the results of the bivariate analysis.

Table 4
Bivariate Comparison Results

Input variable	DF	Wald Chi-Square	PR > Chi-Square
Age	2	9.42	0.8537
Gender [a]	2	14.06	0.0009[a]
Race	2	3.22	0.2001
Cohesion[a]	2	6.71	0.0349[a]
Adaptability	2	2.94	0.2301
SM	2	2.50	0.2870
MA	2	0.32	0.8538
AI	2	2.02	0.3647

[a] Significant at $p < .05$.

Multinomial Logistic Regression Results

Model 1. This model was designed to primarily address hypotheses 1, 2, 3, 5, and 6. The main effect independent variables included: age (A), gender (G), race (R), cohesion (C), manifest aggression (MA), and asocial index(AI). The interaction terms included: C, MA and C, AI. The subject's rate of offending was identified as the dependent variable. The main effect independent variables found to achieve significance included age, chi-square = 7.06, $p < .05$; gender, chi-square = 18.79, $p < .05$; cohesion, chi-square = 6.89, $p < .05$, and MA, chi-square = 7.79, $p < .05$. The main effect independent variables found not to achieve significance at $p < .05$ were race and asocial index. The interaction term which achieved significance was Cohesion crossed with MA, chi-square = 6.66, $p < .05$;. Significance was not achieved for the interaction term including Cohesion and AI at $p < .05$. Table 4 summarizes the results of the multinomial logistic regression Model 1.

Table 5
Mulitnomial Logistic Regression Results For Model 1

Input variable	DF	Wald Chi-Square	PR > Chi-Square
Age[a]	2	7.06	0.0293[a]
Gender [a]	2	18.79	0.00008[a]
Race	2	7.06	0.1560
Cohesion[a]	2	6.89	0.0320[a]
MA[a]	2	7.79	0.0204[a]
AI	2	4.03	0.1336

Table 5
(Continued)
Mulitnomial Logistic Regression Results For Model 1

Input variable	DF	Wald Chi-Square	PR > Chi-Square
C, MA[a]	2	6.66	0.0358[a]
C, AI	2	2.96	0.2280

[a] Significant at $p < .05$.

Model 2. This model was designed to primarily address hypotheses 7. The main effect independent variables included: age (A), gender (G), race (R), adaptability (ADP), and social maladjustment (SM). The interaction term was ADP, SM. The subject's rate of offending was identified as the dependent variable. The main effect independent variables found to achieve significance included age, chi-square = 10.10, $p < .05$; and gender, chi-square = 15.77, $p < .05$. The main effect independent variables found not to achieve significance at $p < .05$ were race, Adaptability and SM. The interaction term (ADP, SM) did not achieve significance at $p < .05$. Table 5 summarizes the results of the multinomial logistic regression Model 2.

Table 6
Mulitnomial Logistic Regression Results For Model 2

Input variable	DF	Wald Chi-Square	PR > Chi-Square
Age[a]	2	10.10	0.0064[a]
Gender [a]	2	15.77	0.0004[a]
Race	2	3.45	0.1777

Table 6
(Continued)

Input variable	DF	Wald Chi-Square	PR > Chi-Square
ADP	2	4.54	0.1036
SM	2	3.30	0.1927
ADP, SM	2	3.98	0.1368

[a] Significant at $p < .05$.

Evaluation of Hypotheses

Nine hypotheses were originally purposed in this research study to assess the existence of a possible relationship between personality and family functioning across an adolescent's rate of offending. As a result of multicolinearity concerns, the original full multinomial model was modified to form two multinomial logistic regression models (1 & 2). Model 1 was designed to address hypotheses 1, 2, 3, 5, and 6. Model 2 was designed to address hypotheses 7. Hypotheses 4, 8, and 9 were left untestable. Further, multiple single bivariate logistic comparisons were made between each independent variable and the dependent variable to contribute to inferences made. Thus, two multinomial logistic regression models and their corresponding partial logistic regression coefficients were utilized to test each hypothesis for statistical significance. Data obtained from the study either supported the acceptance or rejection of the null hypotheses. The following will be an evaluation of each modified hypothesis tested based on the statistical

findings of this study. Table 5 summarizes the statistical tests and decisions made on each hypothesis.

Hypothesis 1 proposed that there is no relationship between age and rate of juvenile delinquency as measured by number of criminal charges while holding gender, race, cohesion, manifest aggression, and asocial index constant. The results of the multinomial logistic regression and corresponding partial logistic regression coefficient in Model 1 demonstrated that the main effect for age attained statistical significance with a chi-square = 7.06, $p < .05$. Based on these results, data from the study supported the rejection of null hypothesis 1 (main effect for age). Support was also found for the significance of age in model 2 (chi-square = 15.77, $p < .05$.) but not in the bivariate analysis at $p < .05$.

Hypothesis 2 proposed that there is no relationship between gender and rate of juvenile delinquency as measured by number of criminal charges while holding age, race, cohesion, manifest aggression, and asocial index constant. The results of the multinomial logistic regression and corresponding partial logistic regression coefficient in Model 1 demonstrated that the main effect for gender attained statistical significance with a chi-square = 18.79, $p < .05$. Based on these results, data from the study supported the rejection of null hypothesis 2 (main effect for gender).
Support was also found for the significance of gender in model 2 (chi-square = 16.85, $p < .05$.) and in the bivariate analysis (chi-square = 14.06, $p < .05$).

Hypothesis 3 proposed that there is no relationship between race and rate of juvenile delinquency as measured by number of criminal charges while holding age,

gender, cohesion, manifest aggression, and asocial index constant. The results of the multinomial logistic regression and corresponding partial logistic regression coefficient in Model 1 demonstrated that no statistical evidence was established to support the rejection of null hypothesis 3 (the main effect for race) at $p < .05$. Similarly, results from Model 2 and bivariate analysis also found race did not achieve significance at $p < .05$.

Hypothesis 4 proposed that the relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of social maladjustment as measured by Jesness personality inventory while holding age, gender, race, adaptability, manifest aggression, and asocial index constant. Due to multi-colinearity concerns this hypothesis was untestable. Bivariate logistic analysis was completed on each variable and revealed significance for cohesion (chi-square = 6.71, $p < .05$) but not for SM at $p < .05$.

Hypothesis 5 proposed that the relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, and asocial index constant. The results of the multinomial logistic regression and corresponding partial logistic regression coefficient in Model 1 demonstrated that the interaction term between cohesion and MA attained statistical significance with a chi-square = 6.66, $p < .05$. Based on these results, data from the study supported the rejection of null hypothesis 5 (the interaction term including cohesion and MA).

Hypothesis 6 proposed that the relationship between family cohesion as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of asocial index as measured by Jesness personality inventory while holding age, gender, race, and manifest aggression constant. The results of the multinomial logistic regression and corresponding partial logistic regression coefficient in Model 1 demonstrated that the interaction term between cohesion and asocial index did not attain statistical significance at $p < .05$. Based on these results, insufficient statistical evidence was found to support the rejection of null hypothesis 6 (interaction term including cohesion and asocial index).

Hypothesis 7 proposed that the relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of social maladjustment as measured by Jesness personality inventory while holding age, gender, and race constant. The results of the multinomial logistic regression and corresponding partial logistic regression coefficient in Model 2 demonstrated that the interaction term between Adaptability and SM did not attained statistical significance at $p < .05$. Based on these results, insufficient statistical evidence was found to support the rejection of null hypothesis 7 (interaction term including adaptability and SM).

Hypothesis 8 proposed that the relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of manifest aggression as measured by Jesness personality inventory while holding age, gender, race, cohesion, social

maladjustment, and asocial index constant. Due to multi-colinearity concerns this hypothesis was untestable. Bivariate logistic analysis was completed on each variable and revealed insufficient statistical evidence to support the achievement of significance for either adaptability or MA at $p < .05$.

Hypothesis 9 proposed that the relationship between family adaptability as measured by FACES-II and rate of juvenile delinquency as measured by number of criminal charges will not vary as a function of asocial index as measured by Jesness personality inventory while holding age, gender, race, cohesion, social maladjustment, and manifest aggression, constant. Due to multi-colinearity concerns this hypothesis was untestable. Bivariate logistic analysis was completed on AI and the rate of offending and revealed insufficient statistical evidence to support the achievement of significance for AI at $p < .05$.

Table 7
Statistical Tests of Hypotheses

Hypothesis	Statistical Model	Input variable	Wald Chi-Square	PR > Chi-Square	Decision
Ho_1	One	Age [a]	7.06	0.0293 [a]	Reject
Ho_2	One	Gender [a]	18.79	0.00008 [a]	Reject
Ho_3	One	Race	7.06	0.1560	Not Reject
Ho_4	None	C, SM	---	---	Untestable
Ho_5	One	C, MA [a]	6.66	0.0358 [a]	Reject
Ho_6	One	C, AI	2.96	0.2280	Not Reject

Table 7
(Continued)

Hypothesis	Statistical Model	Input variable	Wald Chi-Square	PR > Chi-Square	Decision
Ho_7	Two	ADP, SM	3.98	0.1368	Not Reject
Ho_8	None	ADP, MA	---	---	Untestable
Ho_9	None	ADP, AI	---	---	Untestable

[a] Significant at $p < .05$.

Summary

In summary, descriptive analysis of the data revealed a sample of adolescents who varied on demographic characteristics and rate of offending. The sample was reduced from 184 subjects to 169 Black and White subjects ranging in age from 13 to 18 years old. Inferential analysis was conducted through the use of multinomial logistic regression and bivariate logistic regression. This study's utilization of a multinomial type of regression is consistent with the practices of others in the field of juvenile delinquent study who are exploring multivariate models of delinquency (Farrington, 1994; Hoge, Andrews, & Leschied, 1994; Salts, Lindholm, Goddard, & Duncan, 1995; Scholte, 1992; Tolan, 1987; Tolan & Lorion, 1988; Wasserman, Miller, Pinner, & Jaramillo, 1996). The use of multinomial logistic regression permitted the analysis of the relationship between the dependent variable and various independent variables while controlling for other independent variables in the model. Bivariate logistic comparisons were also provided.

Due to concerns of multi-colinearity, hypotheses 4, 8, and 9 were untestable. The

results of the statistical analysis for this sample revealed insufficient statistical evidence to support the rejection of null hypothesis 3, 6, and 7. Therefore, no evidence was found to support a relationship between the input variables of race or the interaction terms of either cohesion & asocial index or adaptability & social maladjustment with the dependent variable (rate of offending). However, sufficient statistical evidence was found to reject null hypothesis 1, 2, and 5. Therefore, supporting the existence of a significant relationship between the input variables of age, gender, and the interaction of cohesion and manifest aggression with the dependent variable (rate of offending). Chapter 5 will present an overview of the study, a discussion of the results, the limitations of the study, practical implications and recommendations for future research.

CHAPTER 5
DISCUSSION

> One of the greatest mistakes that can be made is to assume that simple ways can be found to solve juvenile delinquency. There are no philosopher's stones, one-a-day medicines, or special formulas to change young people caught up in crime and the juvenile justice system. (Lee & Klopfer, 1978)

Introduction

This chapter summarizes the purpose of the study including a description of the research methodology and sample. Also provided is a summary evaluation of the hypotheses, a discussion of the results related to the primary research questions, limitations of the study, and theoretical and practical implication of the findings. Finally, recommendations for future research will be offered and an introduction to Powers's (1973) Meta Theory of Hierarchical Cybernetic Feedback Loops is presented. Powers's meta theory offers an alternative explanation of the processes at work between personality and family functioning on the rate of juvenile delinquent offending and may inspire future research on this topic.

Overview of Study

A growing consensus in the field of juvenile delinquent study supports the view that the development and maintenance of juvenile offending is a result of many complex

factors (Benda, 1987; Bogenschneider, 1996; Calabrese & Adams, 1990; Marsh, Clement, Stoughton, & Marckioni, 1986; Jesness, 1996; Salts, Lindholm, Goddard, & Duncan, 1995; Tolan & Loeber, 1993; Tolan, Cromwell, & Brasswell, 1986; Worden, 1991). Thus, many current researchers support the use of multivariate ecosystemic models to investigate the development, prevention, and treatment of juvenile delinquency (Bogenschneider, 1996, Bronfenbrenner, 1979; Henggeler, 1989; Lerner, 1991; Liddle, 1995; Magnusson, 1995; Moffitt, 1993; Salts, Lindholm, Goddard, & Duncan, 1995; Mulvey, Arthur, Reppucci, 1993; Paris, 1996; Reid, 1993; Tolan & Loeber, 1993; Yoshikawa, 1994; Worden, 1991). Consistent with this approach, the current study utilized Bronfenbrenner's Eco-Systemic Model of Human Development to guide the investigation of a possible relationship between personality and family functioning across the rate of juvenile delinquent offending.

The primary purpose of this study was to address the question, "Does a relationship exist between an adolescent's personality (i.e., characteristics of the self) and his/her perception of family functioning (i.e., environmental characteristics of the system) across his/her rate of delinquent offending (i.e., social development) while holding relevant factors such as age, gender, and race constant?" The construct of personality was grounded in the Jesness Personality Inventory (1996), which was the assessment instrument used to attain the scores on the social maladjustment scale (SM), manifest aggression scale (MA) and asocial index (AI).

The construct of family functioning was grounded in Olson, Russell and Sprenkle's (1983) Circumplex Model of Marital and Family Systems and FACES-II which was the assessment instrument utilized to assess family cohesion and adaptability.

A private counseling agency in North Central Florida had previously used FACES-II and the Jesness Personality Inventory to assess its clients at intake and made a data set of 184 anonymous juveniles available for this study. The original sample was reduced to conform to the age range defined in the study and to provide a sufficient number of subjects in each ethnic category for comparison. As a result, the sample analyzed consisted of 169 Black and White adolescents who ranged from 13 to 18 years old.

Descriptive analysis revealed that 78% of the analyzed sample consisted of males, 22% females, 53% were Black and 47% were White. This distribution is consistent with the gender and ethnic distribution seen in the offender population as reported by the State of Florida Department of Juvenile Justice (DJJ, 1996).

Through the use of multinomial logistic regression, it was possible to hold one or more of the independent variables constant in order to determine the significance of a single input variable's relationship to the dependent variable. This method also made it possible to determine if two variables interacted with one another in predicting the variance in the dependent variable while controlling for the other input variables. The findings of this study have both theoretical and practical implications. Further, the findings contribute to filling the gap in the literature exploring the existence of a relationship between personality and family functioning across rate of delinquent

offending. The following is a summary evaluation of the research hypotheses in light of the statistical findings.

Evaluation of Hypotheses

The statistical analysis directly pertaining to the hypotheses involved running two multinomial logistic regression models (1 & 2). The original full multinomial logistic regression model was reduced to form Model 1 and Model 2 due to multicolinearity concerns between several independent variables. Model 1 was designed to address hypotheses 1, 2, 3, 5, and 6. Model 2 was designed to address hypothesis 7. These modifications left hypothesis 4, 8, and 9 untestable. Though not directly utilized to test the hypotheses, bivariate logistic regression comparisons were also run to further assess the relationship between the independent variables and the dependent variable. The following will be a summary of the hypotheses tested and the corresponding statistical results.

Hypothesis 1 tested the main effect for age as it related to rate of juvenile delinquency. The results revealed that sufficient statistical evidence was found to demonstrate that age had achieved significance in Model 1 with a chi-square = 7.06, $p < .05$. Support was also found for the significance of age in Model 2 (chi-square = 15.77, $p < .05$.) but not in the bivariate analysis at $p < .05$.

Hypothesis 2 tested the main effect for gender as it related to rate of juvenile delinquency. The results revealed that sufficient evidence was attained to demonstrate that gender had achieved significance in Model 1 with a chi-square = 18.79, $p < .05$.

Support was also found for the significance of gender in Model 2 (chi-square = 16.85, $p < .05$.) and in the bivariate analysis (chi-square = 14.06, $p < .05$).

Hypothesis 3 tested the main effect for race as it related to rate of juvenile delinquency. The results revealed that insufficient statistical evidence was found in Model 1 to support the rejection of hypotheses 3 at $p < .05$. Similarly, results from Model 2 and bivariate analysis also found race did not achieve significance at $p < .05$.

Hypothesis 4 was designed to test the interaction of family cohesion and social maladjustment as related to rate of juvenile delinquency. However, due to multi-colinearity concerns this hypothesis was untestable. Although the interaction of cohesion and SM was not explored, bivariate logistic analysis revealed significance was achieved for cohesion (chi-square = 6.71, $p < .05$) but not for SM at $p < .05$.

Hypothesis 5 tested the interaction of family cohesion and manifest aggression as related to rate of juvenile delinquency. The results revealed that sufficient evidence was found in Model 1 with a chi-square = 6.66, $p < .05$. to demonstrate that an interaction between C and MA may exist.

Hypothesis 6 tested the interaction of family cohesion and asocial index as it related to rate of juvenile delinquency. The results revealed insufficient evidence in Model 1 to support the rejection of hypothesis 6 at $p < .05$.

Hypothesis 7 tested the interaction of family adaptability and social maladjustment as related to rate of juvenile delinquency. The results revealed that insufficient evidence was found in Model 2 to support the rejection of hypothesis 7 at $p < .05$.

Hypothesis 8 was designed to test the interaction of family adaptability and manifest aggression as related to rate of juvenile delinquency. However, due to multi-colinearity concerns this hypothesis was untestable. Although the interaction of adaptability and MA was not explored, bivariate logistic analysis revealed insufficient statistical evidence to support the achievement of significance for either adaptability or MA at $p < .05$.

Hypothesis 9 was designed to test the interaction of family adaptability and asocial index as related to rate of juvenile delinquency. However, due to multi-colinearity concerns this hypothesis was untestable. Although the interaction of adaptability and AI was not explored, bivariate logistic analysis revealed insufficient statistical evidence to support the achievement of significance for AI and rate of offending at $p < .05$.

In summary, the null hypotheses 1 (main effect for age), 2 (main effect for gender), and 5 (interaction term for C & MA) were rejected and no statistical evidence was found to support the rejection of null hypothesis 3 (Main effect for race), 6 (interaction term for C & AI), and 7 (interaction term for ADP & SM). Hypotheses 4, 8, and 9 were untestable due to modifications as a result of multi-colinearity concerns. The bivariate analysis revealed significant results for gender and cohesion. Contrary to the multinomial models, age was not found to achieve bivariate significance. Further, while MA was found to be contained in a significant interaction term with cohesion, the bivariate comparison for MA did not attain significance.

Discussion of Results

The results of the multinomial logisitic regression analysis revealed support for and a lack of support for several of the hypothesis tested. The following discussion of the results will address each of this study's research questions.

Relationship of Age to Rate of Juvenile Delinquency

The purpose of research question 1 was to investigate the relationship between age and rate of juvenile delinquency while controlling for other relevant variables. Hypothesis 1 tested the main effect for age as it related to rate of juvenile delinquency while controlling for other relevant input variables. Sufficient statistical evidence was found to demonstrate that age had achieved significance in the multinomial logistic regression Model 1 with a chi-square = 7.06, $p < .05$. Support was also found for the significance of age in Model 2 (chi-square = 15.77, $p < .05$.) but not in the bivariate analysis at $p < .05$.

This study's significant effect for age supports the findings of Hindelang, Hirschi, and Weis, (1981) and Tolan and Loeber (1993) who reported a relationship between age and rates of delinquent offending. The current multinomial findings are in direct contrast, however, to Smith, Visher, and Jarjoura (1991) who found no relationship between age among active offenders and the frequency of delinquent activity. The statistics used and the cross sectional design of the current study constrain conjecture about the causal nature of this relationship. For example, did age reflect a direct cause to level of offending? Was it an indirect effect reflecting developmental differences effecting family relations which then effected levels of delinquency (as suggested by Smets and Hartup, 1988, and Olczak,

Parcell, and Sttot, 1983)? Or was age significant simply because among our sample, the older adolescents had more time to acquire more charges. The differences in mean ages in this sample (from 15.10 for first time offenders to 16.02 for chronic offenders) could be said to support this latter conclusion.

The current finding of a significant age effect provides support for Bronfenbrenner's eco-systemic model. Age would appear to be a significant characteristic of an adolescent which effects the course of his/her social development. In general, this study's findings on the role of age suggest the need to control for age when exploring a multivariate model's ability to explain the variance in the rate of delinquent offending.

Relationship of Gender to Rate of Juvenile Delinquency

The purpose of research question 2 was investigate the relationship between gender and rate of juvenile delinquency while controlling for other relevant variables. Hypothesis 2 tested the main effect for gender as it related to rate of juvenile delinquency while controlling for other relevant input variables. Sufficient evidence was attained to demonstrate that gender had achieved significance in the mulinomial logistic regression Model 1 with a chi-square = 18.79, $p < .05$. Support was also found for the significance of gender in Model 2 (chi-square = 16.85, $p < .05$.) and in the bivariate analysis (chi-square = 14.06, $p < .05$).

These finding regarding gender are consistent with many other studies in the delinquency literature (Canter, 1982; Elliot, Huizinga, & Menard, 1989; Hindelang, Hirschi, & Weis, 1981; Saner & Ellickson, 1996; Smith, Visher, & Jarjoura, 1991; Tracy, Wolfgang, & Figlio, 1990; Werner & Smith, 1992; Yoshikawa, 1994). While other

researchers have found no difference due to gender (Blumstien, Cohen, Roth, & Visher, 1986; Shaw & Scott, 1991), the current study's results would suggest the need to consider controlling for gender in the exploration of the complex factors effecting delinquency. The current finding of a significant gender effect provides support for Bronfenbrenner's eco-systemic model. Gender would appear to be a significant characteristic of an adolescent which effects the course of his/her social development and should be controlled for in multivariate delinquency studies.

Relationship of Race to Rate of Juvenile Delinquency

The purpose of research question 3 was to investigate the relationship between race and rate of juvenile delinquency while controlling for other relevant variables. Hypothesis 3 tested the main effect for race as it related to rate of juvenile delinquency while controlling for other relevant input variables. Insufficient statistical evidence was found in the mulinomial logistic regression Model 1 to support the rejection of hypotheses 3 at $p < .05$. Similarly, results from Model 2 and bivariate analysis also found race did not achieve significance at $p < .05$. It is important to realize that the analyzed sample was made up of Caucasian (White) and African American (Black) youth only. This restricts the generalization of these findings.

While keeping in mind the sample consisted of only White and Black youth, finding a lack of support for a relationship between race and official measures of rate of delinquency is contrary to the majority of study's reviewed (Elliot & Ageton, 1980; Elliot, Huizinga, & Ageton, 1985; Short, 1990; Smith, Visher, & Jarjoura, 1991; Tolan & Loeber, 1993; Hindelang, Hirschi, & Weis, 1981).

This study's findings on race are similar to the self-report studies which generally have found no difference in delinquent behavior by race (Salts, Linholm, Goddard, & Duncan, 1995).

Finding that race was not a supported significant effect in predicting rates of delinquency among our sample could challenge the role of race in Bronfenbrenner's eco-systemic model. Based on the finding of this study, race as restricted to Black and White ethnic groups would not appear to be a significant characteristic of an adolescent contributing to the effects on the outcome of social development.

Relationship of Personality and Family Functioning to Rate of Juvenile Delinquency

The primary research question addressed in the current study was, "Does a relationship exist between an adolescent's personality and his/her perception of family functioning across his/her rate of delinquent offending while holding age, race and gender constant?" To address this question, several independent research questions (4, 5, 6, 7, 8, and 9) and corresponding hypotheses pertaining to an interaction between personality and family functioning were developed. Each of these research questions and corresponding hypotheses taken alone were designed to provide the inference needed to address the above question. Due to multi-colinearity concerns research questions 4, 8, and 9 were not included in analysis. Nevertheless, the remaining research questions and corresponding hypotheses (5, 6, and 7) provided sufficient inferences needed to address the primary research question. The following discussion will address research questions 6 and 7 first, and then research question 5.

Research questions 6 & 7

Research questions 6 and 7 and the corresponding hypotheses investigated two different interactions pertaining to the relationship of personality and family functioning with the rate of juvenile delinquency. Hypothesis 6 tested the interaction term including C, AI and hypothesis 7 tested the interaction term including ADP, SM. The results revealed insufficient evidence in Model 1 to support the rejection of hypothesis 6 at $p < .05$ and insufficient evidence in Model 2 to support the rejection of hypothesis 7 at $p < .05$. Since neither of these interaction terms were found to attain significance, the main effect variables included in each of these interactions other than cohesion were checked for significance. The main effect for cohesion was not checked because it was also included in a second significant interaction term corresponding to hypothesis 5.

Upon reviewing the results of both the multinomial logistic regression models and the bivariate comparisons, significance at $p < .05$ was not found to exist for ADP, SM, or AI. The following will be a discussion of each of these variables as related to findings within the delinquency literature.

Adaptability as measured by the FACES, has a history of inconsistent findings in discriminating levels of juvenile delinquency. The current study's discovery that within the sample collected, adaptability did not achieve significance in either the multinomial logistic regression model or the bivariate comparisons continues to raise doubt in the utility of this dimension of family functioning to discriminate levels of delinquency. This finding is consistent with others in the field of delinquency research (Cox, 1996; Hanson, Henggeler, Haefle, & Rodick, 1984, Henggeler, Melton, Smith, Foster, Hanley, &

Hutchinson, 1993; Krohn, Stern, Thornberry, & Jang, 1992; Tolan, 1988a). According to Olson (1994), inconsistent findings regarding the FACES assessment of adaptability may be an artifact of the current likert scale design utilized in the FACES-II rather than an indication of a theoretical weakness.

While adaptability did not distinguish among the levels of delinquents within the current study, the range of mean adaptability scores found (41.54 to 44.36) did suggest that all the subjects should be classified as coming from a mid-range family type rather than a balanced family type. This is consistent with others who have found adaptability to distinguish between non-delinquents (who generally come from balanced families) and delinquents (who generally are found to come from mid-range to extreme family types) (e.g., Blaske, Borduin, Henggeler, & Mann, 1989; Geismar & Wood, 1986; Rodick, Henggeler, & Hanson, 1986)

In sum, that adaptability was found to correctly identify all delinquent subjects supports the theoretical construct of adaptability. However, the findings of this study negates the utility of the FACES-II assessment of adaptability as a family functioning characteristic in multivariate models investigating levels of delinquency among the population of juvenile delinquents.

Social maladjustment and asocial index: The current study's discovery that within the sample collected, SM and AI did not achieve significance in either the multinomial logistic regression model or the bivariate comparisons raised doubt in the utility of these aspects of personality to discriminate levels of delinquency. These findings are consistent with a minority in the field of delinquency research who have utilized the Jesness

Inventory (e.g., Jesness, 1971b; Saunders & Davies, 1976; Shark & Handal, 1977). However, these findings stand in direct contrast to the majority of the researchers who have utilized the Jesness Inventory (e.g., Cowden, Peterson, & Patch, 1969; Decker, 1979; Dembo, La Voie, Schmeidler, & Washburn, 1987; Graham, 1981; Jesness, 1996; Kunce & Hemphill, 1983; Martin, 1981; Martin & Murphy, 1993; Roberts, Schmitz, Pinto, & Cain, 1990; Saunders & Davies, 1976; Sorensen & Johnson, 1996; Stott & Olczak, 1978).

The range of mean scores for SM (i.e., 65.17 to 69.01) and for AI (i.e., 65.39 to 68.81) while not discriminating across levels of delinquency among the sample of delinquents, are both within the ranges characteristic of youthful offenders (Jesness, 1996).

In sum, this study supports the findings of many researchers (e.g., Hoge, Andrews, & Leshied, 1994; Glueck & Glueck, 1950; Guerra, 1989) that general antisocial/antiauthority/procriminal personality attitudes such as SM and AI are commonly found within the delinquent population. However, the findings do not support the Jesness Inventory's assessment of SM and AI as a discriminator to discriminate among levels of youthful offenders within the delinquent population.

Research question 5

Research question 5 and the corresponding hypothesis investigated a different theoretically and empirically supported interaction pertaining to the relationship of personality and family functioning with rate of juvenile delinquency. Hypothesis 5 tested the interaction term including C, MA. Sufficient evidence was found to demonstrate that

an interaction between C and MA attained statistical significance in Model 1 with a chi-square = 6.66, $p < .05$. Because a significant interaction effect for MA and C was discovered, the main effects for cohesion and manifest aggression were not investigated. This was consistent with the standard practices of statistical analysis stating that it is inappropriate to explore the lower order main effect terms if the higher order term including these variables is found to attain significance (Borg and Gall, 1989).

The interaction demonstrated in question 5 indicates that the cohesion dimension of the Circumplex model appears to be a relevant factor associated with delinquency. This is consistent with many other studies in the field of juvenile delinquent study (e.g., Cox, 1996; Druckman, 1979; Geismar & Wood, 1986; Hanson, Henggeler, Burr-Harris, Borduin, & McCallium, 1991; Henggeler, 1989; Henggeler, Haefle, & Rodick, 1984; Henggeler, Melton, Smith, Foster, Hanley, & Hutchinson, 1993; Maynard & Hultquist, 1988; McGaha & Fournier, 1988; Rodick, Henggeler, & Hanson, 1986; Tolan, 1988a). The interaction demonstrated in question 5 also revealed that the MA of the Jesness personality inventory appears to be a relevant factor associated with delinquency. This too is consistent with many studies in the field of juvenile delinquent study (e.g., Cowden, Peterson, & Patch, 1969; Decker, 1979; Dembo, La Voie, Schmeidler, & Washburn, 1987; Graham, 1981; Jesness, 1996; Kunce & Hemphill, 1983; Martin, 1981; Martin & Murphy, 1993; Roberts, Schmitz, Pinto, & Cain, 1990; Saunders & Davies, 1976; Sorensen & Johnson, 1996; Stott & Olczak, 1978).

The significant interaction found in question 5 also provides statistical evidence which suggests that characteristics of the person and the environment may have a

reciprocal influence on the outcomes of social development. This is in line with the findings of many other researchers (Bronfenbrenner, 1979; Brooks, Whiteman, Nomura, Gordan, & Cohen, 1988; Cicchetti & Richters, 1993; McLeod, Kruttschnitt, & Dornfeld, 1994; Lerner & Spanier, 1978; Problems Prevention Research Group, 1992; Moffitt, 1993; Tolan & Mitchell, 1989; Shaw & Bell, 1993; Smets & Hartup, 1988; Wasserman, Miller, Pinner, & Jaramillo, 1996). More specifically, finding this significant interaction term implies that the complex interactional nature of aspects of the adolescent's personality (i.e., MA) and perception of family function (i.e., cohesion) should be taken into account when utilizing multivariate models to study levels of juvenile delinquency.

Though not a research question asked in the current study, the next question raised could be, "If MA and cohesion are related, how do they relate?" Unfortunately, due to the crossectional design and correlational nature of the statistical procedures used in the current study, little insight into the exact nature of this relationship between cohesion and manifest aggression can be deduced (Shaw & Scott, 1991; Scholte, 1992). Thus, the exact nature of the relationship between cohesion and manifest aggression remains unknown and open for further research.

While acknowledging these limitations, some limited insight into how the interaction of cohesion and manifest aggression can be gained from Table 8 (male subjects) and Table 9 (female subjects). These two tables provide the percentages of male or female subjects in each level of offending across the varying combinations of high and low cohesion and manifestation aggression.

A further statistical limitation to the strength of inferences made from the patterns seen in these tables, is the small number of subjects per category.

Computations within Table 8 and Table 9 were based on the following criteria. High or healthy cohesion was defined as scores on the FACES-II reflecting mid to balanced range (a cohesion score of 51 or higher). Low or unhealthy cohesion was defined as scores on the FACES-II reflecting the extreme disengaged range (a cohesion score of 50 or lower). High or unhealthy manifest aggression was defined as scores on the Jesness Personality Inventory found to exist one standard deviation above the mean (a score of 60 or higher). Low manifest aggression was defined as a score found to exist at or below the mean (a score of 50 or lower).

Table 8
Frequency Distribution of Males by Rate of Offending Across Combinations of Cohesion (C) and Manifest Aggression (MA)

Level of Offending	Low C High MA n(%)	Low C Low MA n(%)	High C High MA n(%)	High C Low MA n(%)
Chronic Offender	16(23)	3(4)	13(19)	19(27)
Multiple Offender	11(29)	3(8)	6(16)	5(13)
First Time Offender	7(30)	1(4)	3(13)	6(26)

Note. The values represent the percentages of the total number of male subjects across each level of offending and within the specific combination of levels of cohesion and manifest aggression.

Table 9
Frequency Distribution of Females by Rate of Offending Across Combinations of Cohesion (C) and Manifest Aggression (MA)

Level of Offending	Low C High MA n(%)	Low C Low MA n(%)	High C High MA n(%)	High C Low MA n(%)
Chronic Offender	4(40)	3(30)	1(10)	1(1)
Multiple Offender	3(30)	1(10)	1(10)	3(30)
First Time Offender	3(17)	2(11)	3(17)	6(33)

Note. The values represent the percentages of the total number of female subjects across each level of offending and within the specific combination of levels of cohesion and manifest aggression.

Table 8 and Table 9 reveal several interesting patterns related to the interaction of cohesion and manifest aggression. First time female offenders where found to have a higher percentage of subjects within the more healthy ranges of cohesion and manifest aggression (33%) than within the unhealthy ranges of cohesion and manifest aggression (17%). Female chronic offenders where found to have a higher percentage of subjects within the unhealthy ranges of cohesion and manifest aggression (40%) than within more healthy ranges of cohesion and manifest aggression (1%). The pattern within the female multiple offenders and across the male offenders was less clear.

When comparing the mixed levels of healthy and less healthy cohesion and manifest aggression across the levels of male offending in Table 9, males have a higher

percentage of subjects in the healthy cohesion and high manifest aggression combinations than within the unhealthy cohesion and low manifest aggression combinations. The greatest difference in this pattern is seen in the male chronic offender level (19% verses 4%). The opposite pattern is reflected in the female chronic offenders (Table 8) which demonstrate a higher percentage of subjects within the unhealthy cohesion and low manifest aggression (30%) than within the healthy cohesion and high manifest aggression (10%). This may suggest that especially for chronic offenders with mixed levels of healthy and less healthy cohesion and manifest aggression, males are more influence by poor levels of personality (i.e., MA) while females are more influenced by poor levels of family functioning (i.e., cohesion). It should be cautioned again that due to the limitations which result form this study's crossectional and correlational design coupled with this study's extremely small number of subjects within each comparison, little weight can be given to these patterns until further exploration and verification by future research.

Despite the limitations within the current study to infer the exact nature of the relationship between cohesion and manifest aggression, the discovery of a significant interaction term pertaining to family functioning and personality provided support for an answer of "yes" to this study's primary research question. Thus, statistical evidence was found to suggest there may exist a relationship between personality and the adolescent's perception of family functioning across his/her rate of offending while holding relevant factors such as age, gender, and race constant.

Specifically, the current findings provide support for Bronfenbrenner's (1979) theoretical model and for the utilization of aspects of both the Circumplex Model of Marital and Family Functioning (Olson et al. 1983) and the Jesness Personality Inventory (Jesness, 1996) when studying levels of juvenile delinquency.

Limitations of Study

The results and implications drawn from this study must be assessed within the context of its limitations. The following are considered to be limitations of the study.

1. The self-report methods of assessment used are vulnerable to respondent biases (McCubbin & Thompson, 1991). Self-report methods raise concerns over the honesty of the respondent in answering the questions and addressing each question rather than just marking answers (Christmas Treeing). Having the interviewer present during the entire administration of the assessment instruments helped to guard against this limitation.
2. Mono operational bias comes into play when only one method of assessment is utilized to assess a construct. This was the case in the present study. This limitation was countered by selecting very reliable and valid measures of the constructs under investigation. Further, the construct of family functioning is based solely on the view of the adolescent rather than the averaging of all the family members as supported by Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson (1985).

This method was chosen based on the theoretical justifications of the grounding theory for this study (Bronfenbrenner, 1979).

3. The method utilized in the present study to assess one's rate of delinquency could limit the generalizability of the findings for some types of delinquents. The method used was the calculation of officially reported charges. There is a continuing debate of whether official records should be used or self-report measures in measuring delinquency (Rosen, 1985; Tolan & Loeber, 1993; Yoshikawa, 1994). Many have reported that self-report measures provide a better assessment of minor offenses and official data are quite accurate in identifying chronic or severe offending (Hindelang, Hirschi, & Weis, 1979; West & Farrington, 1973). Though it is recommended that one should indicate which method is used in their study, the growing consensus is that official and self-report measures are both valid and reliable methods to utilize (Rosen, 1985).

4. The sample collected was drawn from small rural communities in North Central Florida. Though the sample was representative of the demographics recorded in the total population of delinquency cases received in the State of Florida (DJJ, 1996), concern over generalizing beyond the State of Florida could be raised. Further, since the sample consisted only of White and Black adolescents, generalization is limited to these two ethnic groups. The use of random selection and a broader range of ethnic groups would have provided stronger support for

external validity. In the current study, random selection was not utilized, but rather clients were court referred and taken on an as seen basis.

5. The correlational method of logistic regression was utilized in the current study to explore the relationships between the independent variables and the dependent variable. Strong conclusions generally are not made regarding cause-and-effect relationships from correlational data. Correlation coefficients are best used to measure the degree of relationship between variables and to provide information for future studies utilizing more appropriate designs for making cause-and-effect inferences (Borg and Gall, 1989).

6. The current study utilized a cross-sectional design rather than a longitudinal design. According to Scholte (1992) and Shaw and Scott (1991), forms of regression analysis on cross-sectional data provide little information about effects and minimal empirical demonstration of the direction of effects. Therefore, while the relationships between personality and family functioning may be established, the use of longitudinal data is needed to assess the nature and conclusions regarding causal or directional effects of the variables explored.

Practical Implications of the Results

The theoretical implications of the findings to this study's grounding theories posited by Bronfenbrenner (1979), Olson, Sprenkle, and Russell, (1979), and Jesness (1996) have been presented above. This current section will present a number of evident practical implications of the findings.

Assessment

Thorough assessment is necessary to furthering any understanding. To best assess an issue like delinquency, it is helpful to know what to assess. To know what to assess, it is professionally responsible to have theoretical and empirical grounds to guide assessment. The current study not only provided statistical grounds for the need to include the assessment of the interaction of aspects of personality (e.g., MA) and aspects of family functioning (e.g., cohesion) but also provided support for the holistic eco-systemic approach to assessing and understanding rates of juvenile delinquency.

Thus, the current study's findings contribute to our understanding of the interactions of personality and family functioning upon rate of juvenile delinquency and may impact many critical regions of assessment in juvenile delinquency. The current findings support the utilization of the eco-systemic approach to assessment and provide support for including gender, age, and the interaction of personality and family functioning in the assessment strategy. These findings coupled with a general multisystemic approach to assessment may lead to new insights into assessment, and improve the information gathered to guide juvenile justice correctional decisions (Andrews, Bonta, and Hoge, 1990; Hoge, Andrews, and Leschied, 1995; Jaffe, Leschied,

Sab, and Austin, 1985), increase the ability to target those juveniles who are most in need of limited treatment resources (Farrington, 1995; Niarhos & Routh, 1992). Further, these findings coupled with the multisystemic approach may better direct us to identifying what areas to be addressed in a treatment strategy dealing with the juvenile delinquent clientele (Henggeler, 1989; Loeber, 1990; Mulvey, Arthur, & Reppucci, 1993; Tolan & Mitchell, 1989).

Training and Practice

The findings have implications for counselors in training and in practice who need to know the counseling needs of juvenile delinquents. Loeber (1990) believes there exists a strong need to improve training for professionals and para-professionals working with this population. Other than clinical experience, many therapists and therapists in training have not received adequate preparation to understand and work with the delinquent population and their families (Liddle, 1995). The findings of this study would support the adoption of a more holistic eco-systemic stance including personality and family functioning when considering approaches to counseling and understanding the juvenile delinquent population.

For example, Henggeler (1989) utilizing the work of Bronfenbrenner (1979) has developed and empirically supported an eco-systemically based multisystemic therapeutic approach to working with the delinquent and severely delinquent populations and their families (Henggeler, 1991). This is a promising approach to treating and understanding the delinquent population (Chamberlain & Rosicky, 1995; Kazdin, 1987; Liddle, 1995; Tolan & Loeber, 1993).

Though the current study's findings may challenge this approach to include more in depth aspects of personality in assessment and treatment, this approach still gains support by this study's findings. Thus, greater confidence can be placed in such ecosystemic models which have the potential to guide efforts to improve training and practice with the difficult juvenile delinquent population.

Social Policy

The design of social policy is greatly influenced by fundamental assumptions or conclusions about the nature of both social problems and adolescents (Garbarino, 1993). The findings of this study shed insight into the factors related to the rate of juvenile delinquency and support the use of a holistic eco-systemic approach. Thus, this study provides grounds for policies which support funding research and programs that utilize the eco-systemic approach and take into consideration age, gender, and the relationship of personality (e.g. manifest aggression) and family functioning (e.g. cohesion) when addressing the rates of the juvenile delinquent population. Further, the findings may impact the policies instructing state juvenile justice assessment approaches by suggesting the need to consider the interaction of adolescent personality and family functioning in assessment and possibly prevention and treatment of this population.

Recommendations

The current study contributes to the establishment of empirical evidence which supports the existence of a relationship between the rate of juvenile delinquency across

family functioning and personality. It is clear that more research is needed to substantiate this relationship and to better understand the precise nature of the relationship between rate of juvenile delinquency across family functioning and personality. The following will include recommendations for future research based on the results of the current study. Also included will be the presentation of a theoretical model which may help to guide future research through offering an explanation of the processes at work between personality and family functioning on the rate of juvenile delinquent offending.

1. Similar studies should be conducted to replicate and extend the study particularly through examining the relationships among the constructs as they evolve over time. The focus of such studies would be on further examining the exact nature of the relationships between constructs on the development of levels of delinquency. A longitudinal study may reveal evidence for example that the relationships of these constructs on the level of delinquency may vary due to different developmental levels of the adolescent (Smets & Hartup, 1988). Or a longitudinal study may bring to light if and how the interaction of these constructs may influence multiple pathways leading to the development of varying levels of delinquency (Henry, Moffitt, Robins, Earls, & Silvia, 1993; Moffitt, 1993; Tolan & Loeber, 1993).

   According to the eco-systemic model of human development (Bronfenbrenner, 1979), the relationships between the characteristics of

the child and the environment are reciprocal over time. Many researchers support the need for a designed longitudinal study to capture the dynamic nature in the transactions between characteristics of the child and the environment rather than crossectional studies which take a "snap shot" of the story with a focus on one moment in time (Bronfenbrenner, 1995; Moffitt, 1993; Sameroff, 1975; Scholte, 1992; Shaw & Scott, 1991; Tolan & Thomas, 1994; Tolan & Loeber, 1993). It is through a continuous assessment of the transactions between characteristics of the child and their environment that the determinations of how those transactions facilitate or hinder adaptive integrations by the child will become better understood. New longitudinal research such as this may best shed light into the developmental process around levels of juvenile delinquency.

2. Other studies should further research aspects of the interaction between MA and cohesion upon rates of juvenile delinquency. Studies which investigate other aspects of both aggression and family cohesion would add to the understanding of how these two qualities relate and impact the rate of delinquency.

3. Studies of different aspects of personality or family functioning in general are recommended and would broaden the scope of understanding in delinquency. For example, regarding different aspects of personality, a study utilizing the many other Jesness Personality Inventory characteristics that were not included in the current study is recommended.

Another example would be the exploration of the interactions of personality disorders of the adolescent such as Conduct Disorder with family functioning upon the rate of delinquency. The research on the etiology and relations of Conduct Disorder and family functioning has been found to be very similar to that found in delinquency (Coie & Jacobs, 1993; Offord, 1989; Paris, 1996; Rutter & Giller, 1983).

Regarding a different aspect of family functioning, further studies exploring interactions of personality and parenting upon the rates of delinquent offending are needed (Brooks, Whiteman, Nomura, Gordon, & Cohen, 1988; McLeod, Kruttschnitt, & Dornfeld, 1994; Moffitt, 1993; Patterson & Bank, 1989; Tolan & Thomas, 1995; Wasserman, Miller, Pinner, & Jaramillo, 1996). Similarly, though this study focused on the adolescent's personality and perception of family functioning, studies exploring family functioning and the parent's personality upon the level of juvenile offending in the offspring are needed. Phares and Compas (1992), have found significant findings in this area of research. Such future studies would add to the understanding of the complexity in the eco-systemic understanding of delinquency development.

4. Several recommendations can be made to strengthen or further the replication efforts of the current study. These include: A). Rather than one assessment measure of each construct assessed, it is recommended multiple measures be used to eliminate a mono-operational bias. For

example, though the current findings did not find adaptability to attain significance with the FACES-II assessment measure, future studies may want to also include the utilization of the new FACES IV. This assessment measure may contribute to the ability of multiple measures of family functioning to uncover different relevant aspects of the interaction between family adaptability and personality across rates of delinquency. B.) Future studies should make use of a longitudinal design to attain stronger directional inferences. C.) It is recommended that greater generalization of findings would be gained through including a more diverse sample of ethnic groups. And finally, D.) less validity threats to future research would be found following the use of random selection.

The following will be an introduction to Powers's (1973) Meta Theory of Hierarchical Cybernetic Feedback Loops. Powers's meta theory (1973) is presented to provide a theoretical model which may help to guide future research and offer an explanation of the processes at work between personality and family functioning on the rate of juvenile delinquent offending.

Meta Theory of Hierarchical Cybernetic Feedback Loops

Bronfenbrenner's (1979) Social Ecological model of human development provides a fundamental theoretical justification for investigating the relationship between personality (i.e., self) and family functioning (i.e., system) across levels of delinquent

offending. However, other than stressing the contributions to the adolescent's social development of the reciprocal relationship between characteristics of the adolescent (e.g., personality) and the environment (e.g., family functioning), Bronfenbrenner's theory offers little explanation of how this relationship culminates into acts of delinquency. Powers's (1973) meta theory of Hierarchical Cybernetic Feedback loops can be seen as a model which helps to illustrate how the reciprocal interaction of self and system may influence variations in delinquent acts. The following discussion will provide an explanation of how Powers's (1973) meta theory as described by Carver and Scheier (1992) relates to self, family system and the decisions to act. This section will close with this model's possible use in illustrating how the expected relationship between self and system may influence the rate of one's delinquent acts. Suggestions for future research are included.

To begin at the level of the self, Carver and Scheier (1992) suggest people form behavioral intentions. Forming an intention reflects a subtle mental algebra, integrating several kinds of information which then results in a probability of doing the behavior. If the probability is high enough, an intention is formed and the behavior is carried out. Forming an intention refers to the process of establishing a particular goal for one's future action. Once a goal has been set and an intention formed the accuracy of the behavior chosen to match the intention and the actual carrying out of the action is guided by feedback control (Powers, 1973).

The basic unit of operation in feedback control is the feedback loop. This is a self-regulation control system. For self-regulation to occur, first one must have a value to self-

regulate towards— A reference value, goal, or standard of comparison for one's behavior. The second thing needed for feedback control is a perception of one's present behavior and its effects. Third, self-regulation by feedback control requires a periodic comparison of these perceptions with one's reference value (through a mechanism termed a "comparator"). If one's behavior is efficacious (i.e., having the desired effect), the comparison shows no discrepancy, and they continue to act as before. If however, one's behavior does not evoke what one intends, a corrective process kicks in to create a change in behavior designed to reduce the discrepancy between intentions and results.

Carver and Scheier (1992), explain that feedback is used in describing such a system because the consequence of an action is "fed back" into the system in the form of perceptions, which are checked against the reference value in order to determine what subsequent action is necessary. The feedback loop constitutes a control system because its overall effect is to "control" behavior so that all action elicits the results desired. The word control also reflects the idea that each event in the feedback loop depends on the outcome of a previous process. Thus, each prior process "controls" what happens next.

Powers (1973) offers the view that feedback loops can be interconnected into a hierarchy of feedback loops. Thus, people have both high-level (superordinate) and low-level (subordinate) goals/reference values. According to Powers the reference value of the lower-level feedback loop in a hierarchical system is provided as the behavioral output of a system higher in the hierarchy. Higher-order systems don't "behave" by doing physical acts--rather, they "behave" by providing guides for action to the systems below them on the hierarchy. Only the lowest loops actually produce physical acts, by controlling the

movement of muscle groups (Rosenbaum, 1987, 1990). Each feedback loop level in the hierarchy monitors perceptual input at its own level, and each level adjusts output to minimize discrepancies at that level.

Powers proposed that human action involves nine levels of control. The three levels that are most relevant here include program, principle and the highest, system concept control. Program level, the lowest of these three, specifies a general course of action which executes specific behavioral intentions. Principle control, describes more general guidelines for action than does program control. Principles specify overriding qualities of behavior, which can be manifested in many different programs. Principles help one to decide what programs to undertake or what choice to make as one moves through a program (Carver & Scheier, 1992).

Powers labeled the highest level in his theory, system concept control. System concepts are abstract qualities such as one's generalized sense of self and/or generalized sense of relationships or group (e.g., family). Thus, in this hierarchical feedback loop system one system

acts by providing reference values to the system directly below it, thereby generating purposeful action.

The following represents how Powers (1973) meta theory of hierarchical feedback loops can be laid over the present study's constructs found to be significant in the interaction of self and family system. Regarding the self: The system concept level of the perceptual hierarchy is exemplified in the Jesness model of personality; the principle level of the perceptual hierarchy is exemplified in the MA dimension of the Jesness

inventory; The program level is exemplified in the adolescent's actions both within the family and in ultimately chosen delinquent acts. Regarding the family system: The system concept level of the perceptual hierarchy is exemplified by Olson et al's (1983) model of family functioning; the principle level is exemplified by the family cohesion dimension; the program level is exemplified by the family's actions which effect the development of the adolescent.

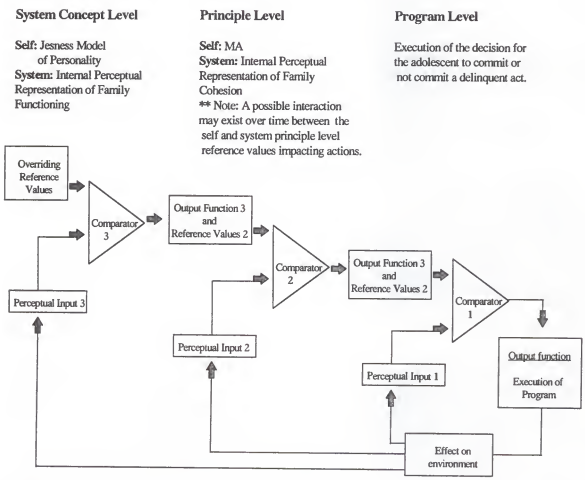


Figure 3 Powers (1973) meta theory of hierarchical feedback loops applied to personality, family functioning and delinquency.

As Bronfenbrenner's (1995) ecological systems model of development suggests, throughout the life course human development takes place through processes of progressively more complex reciprocal interactions between an active evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment. The most powerful of these factors, especially in the earlier years according to Bronfenbrenner (1995), are the perceptions of proximal processes such as one's transactions with their family. Thus, the adolescent's perceptions and the family member's perceptions of the transactions taking place among them at the program level of Powers model are major forces effecting the course of both the adolescent's development and the family's development. The adolescent's choices are particularly effected by the reciprocal interactions which take place between factors of the adolescent's personality (e.g., MA) and factors of the adolescent's internal representations of family functioning (e.g., cohesion) (Bronfenbrenner, 1995). These internal interactions for the adolescent could be described as exemplifications of feedback control as described by Powers (1973).

Powers (1973) meta theory of hierarchical feedback loops can now shed light on the possible processes in which the adolescent is engaged as s/he decides to commit or not commit delinquent acts. Caver and Scheier (1992) noted that people often try to reconcile several different reference values at once within the same level of the hierarchy. In some cases, these values are compatible with one another and in others they are not. Pursuing one value can create discrepancies for the other (Emmon & King, 1988). The self-regulation considers this discrepancy as the source of conflict and as the impetus for

future actions chosen. Thus, Powers model would suggest the adolescent's reference values from both his/her personality and family functioning could mutually contribute or interact to impact the adolescent's ultimate decision to commit or not commit delinquent acts.

Following the theoretical guidance of Bronfenbrenner (1995) and the meta theory of Powers, several hypotheses could be developed. For example, one may hypothesize that if across time the adolescent's reference values at the principle level are congruent and show a preference for respecting social order, then one would expect that the adolescent will not continue a delinquent pattern of behavior. If the adolescent's reference values are incongruent (i.e., in conflict), one may expect the adolescent to escalate to the multiple offender pattern. And finally, if the adolescent's reference values are congruent and show a disregard or disrespect for social order, one may expect the adolescent to develop a chronic offender pattern. The trends seen in Table 8 regarding female delinquent patterns provides partial support for female chronic offenders having congruent unhealthy factors of personality (i.e., MA) and family functioning (i.e., cohesion) and female first time offenders having congruent health factors of personality and family functioning. Future longitudinal research would be needed to explore the validity of these findings, hypotheses and applications of the theories presented.

In closing, Powers's (1973) meta theory of hierarchical cybernetic feedback loops provides a model which helps to illustrate how the reciprocal interaction of self and system may influence variations in rates of delinquent acts. Several insights that were proposed as a result of applying Powers meta theory where highlighted for future

research. These entailed suggestions to explore the possible ways that varying combinations of personality and family functioning may impact the level of delinquency over time.

Chapter Summary

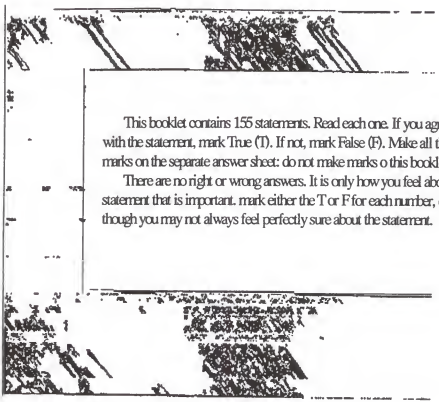
This study was guided by a transactional and multilevel conceptualization of delinquency risk and presumed that the level of development of antisocial behaviors would be dependent on the interaction of individual and contextual characteristics (Bronfrenbrenner, 1979). While advances have been made to substantiate the utility of eco-systemic multivariate models to research delinquency, yet to be fully explored was the existence of a possible relationship between facets of the adolescent's personality and perceptions of family functioning across levels of delinquency. The results of the current study provided statistical evidence which adds to the merit of including within eco-systemic multivariate models of delinquency rate the variables of age, gender and the interaction of facets of the adolescent's personality and family functioning.

This chapter summarized the purpose of the study including a description of the research methodology and sample. Also provided was a summary evaluation of the hypotheses, a discussion of the results related to the primary research questions, limitations of the study, and theoretical and practical implication of the findings. Finally, recommendations for future research were offered and an introduction to Powers's (1973) Meta Theory was provided. The intent of this study was to further the field of juvenile delinquency and shed light onto the possible ways future efforts may help to combat the complex and costly problem of juvenile delinquency.

APPENDIX A
JESNESS PERSONALITY INVENTORY QUESTION SHEET

THE JESNESS INVENTORY (FORM G)

by Carl F. Jesness, Ph.D.



This booklet contains 155 statements. Read each one. If you agree with the statement, mark True (T). If not, mark False (F). Make all the marks on the separate answer sheet: do not make marks o this booklet.

There are no right or wrong answers. It is only how you feel about the statement that is important. mark either the T or F for each number, even though you may not always feel perfectly sure about the statement.

MHS

MULTI-HEALTH SYSTEMS, INC.
908 Niagara Falls Boulevard, North Tonawanda, NY 14120-2060
1-800-456-3003
and
65 Overlea Boulevard, Suite 210, Toronto, Ontario M4H 1P1
1-800-268-6011 Fax 1-416-424-1736

APPENDIX B

FAMILY ADAPTABILITY AND COHESION EVALUATION SCALES (FACES)

FACES II: Family Version

David H. Olson, Joyce Portner & Richard Bell

Directions: Please indicate how much each of these statements describe your family now. Decide whether it is (1) ALMOST NEVER, (2) ONCE IN AWHILE, (3) SOMETIMES, (4) FREQUENTLY, or (5) ALMOST ALWAYS true of your family. Indicate to the left of the item the appropriate number.

1	2	3	4	5
Almost Never	Once in Awhile	Sometimes	Frequently	Almost Always

___ 1. Family members are supportive of each other during difficult times.

___ 2. In our family, it is easy for everyone to express his/her opinion.

___ 3. It is easier to discuss problems with people outside the family than with other family members.

___ 4. Each family member has input regarding major family decisions.

___ 5. Our family gathers together in the same room.

___ 6. Children have a say in their discipline.

___ 7. Our family does things together.

___ 8. Family members discuss problems and feel good about the solutions.

___ 9. In our family, everyone gets his/her own way.

___ 10. We shift household responsibilities from person to person.

___ 11. Family members know each other's close friends.

___ 12. It is hard to know what the rules are in our family.

___ 13. Family members consult other family members on personal decisions.

___ 14. Family members say what they want.

___ 15. We have difficulty thinking of things to do as a family.

___ 16. In solving problems, the children's suggestions are followed.

___ 17. Family members feel very close to each other.

___ 18. Discipline is fair in our family.

___ 19. Family members feel closer to people outside the family than to other family members.

___ 20. Our family tries new ways of dealing with problems.

___ 21. Family members go along with what the family decides to do.

___ 22. In our family, everyone shares responsibilities.

___ 23. Family members like to spend their free time with each other.

___ 24. It is difficult to get a rule changed in our family.

___ 25. Family members avoid each other at home.

___ 26. When problems arise, we compromise.

___ 27. We approve of each other's friends.

___ 28. Family members are afraid to say what is on their minds.

___ 29. Family members pair up rather than do things as a total family.

___ 30. Family members share interests and hobbies with each other.

APPENDIX C
DEMOGRAPHIC INFORMATION

Participant code (first and last initial): _____

County: _____

Does your family receive public assistance (AFDC/Welfare)? Yes ____ No ____

Gender: _____

Current Age: _____

Ethnic Identity: Black: _____ White: _____ Hispanic: _____ Other: _____

List current family members at home (no names, list their estimated age on the blank spaces):

mother _____step-mother _____ grandmother _____ mom's boyfriend father ____

step-father _____ grandfather _____ dad's girlfriend _____

brothers _____ _____ _____ _____ _____ _____ _____ _____ _____

sisters _____ _____ _____ _____ _____ _____ _____ _____ _____

Other(s) - List how related and estimated age only (no names):

_____

_____

STOP HERE!!!!!

REMAINDER WILL BE FILLED OUT BY OFFICE PERSONNEL.

	List of offenses	Date offense Committed	Age at time of offense	Committed alone	Committed with others
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

APPENDIX D
LINEAR SCORING AND INTERPRETATION FOR FACES-II

FACES II: Linear Scoring & Interpretation

Cohesion		
8	80 74	Very Connected
7	73 71	
6	70 65	Connected
5	64 60	
4	59 55	Separated
3	54 51	
2	50 35	Disengaged
1	34 15	

Adaptability		
8	70 65	Very Flexible
7	64 55	
6	54 50	Flexible
5	49 46	
4	45 43	Structured
3	42 40	
2	39 30	Rigid
1	29 15	

Family Type	
8	Balanced
7	
6	Moderately Balanced
5	
4	Mid-Range
3	
2	Extreme
1	

APPENDIX E

JESNESS PERSONALITY INVENTOR ANSWER SHEET

JESNESS INVENTORY **ANSWER** SHEET

NAME _____ SEX: M ____ F ____ AGE _____ DATE _____

SCHOOL _____

LOCATION _____

FATHER'S OCCUPATION OR TRADE _____

DIRECTIONS: Blacken in the boxes under T (True) or F (False) to show your response to each question in the booklet.

Be careful to see that the number you mark is the same as the number of the question you are answering.

T — TRUE
F — FALSE

	T	F		T	F		T	F		T	F		T	F		T	F		T	F		T	F
1	☐	☐	16	☐	☐	31	☐	☐	46	☐	☐	61	☐	☐	76	☐	☐	91	☐	☐	106	☐	☐	121	☐	☐	141	☐	☐
2	☐	☐	17	☐	☐	32	☐	☐	47	☐	☐	62	☐	☐	77	☐	☐	92	☐	☐	107	☐	☐	122	☐	☐	142	☐	☐
3	☐	☐	18	☐	☐	33	☐	☐	48	☐	☐	63	☐	☐	78	☐	☐	93	☐	☐	108	☐	☐	123	☐	☐	143	☐	☐
4	☐	☐	19	☐	☐	34	☐	☐	49	☐	☐	64	☐	☐	79	☐	☐	94	☐	☐	109	☐	☐	124	☐	☐	144	☐	☐
5	☐	☐	20	☐	☐	35	☐	☐	50	☐	☐	65	☐	☐	80	☐	☐	95	☐	☐	110	☐	☐	125	☐	☐	145	☐	☐
6	☐	☐	21	☐	☐	36	☐	☐	51	☐	☐	66	☐	☐	81	☐	☐	96	☐	☐	111	☐	☐	126	☐	☐	146	☐	☐
7	☐	☐	22	☐	☐	37	☐	☐	52	☐	☐	67	☐	☐	82	☐	☐	97	☐	☐	112	☐	☐	127	☐	☐	147	☐	☐
8	☐	☐	23	☐	☐	38	☐	☐	53	☐	☐	68	☐	☐	83	☐	☐	98	☐	☐	113	☐	☐	128	☐	☐	148	☐	☐
9	☐	☐	24	☐	☐	39	☐	☐	54	☐	☐	69	☐	☐	84	☐	☐	99	☐	☐	114	☐	☐	129	☐	☐	149	☐	☐
10	☐	☐	25	☐	☐	40	☐	☐	55	☐	☐	70	☐	☐	85	☐	☐	100	☐	☐	115	☐	☐	130	☐	☐	150	☐	☐
11	☐	☐	26	☐	☐	41	☐	☐	56	☐	☐	71	☐	☐	86	☐	☐	101	☐	☐	116	☐	☐	131	☐	☐	151	☐	☐
12	☐	☐	27	☐	☐	42	☐	☐	57	☐	☐	72	☐	☐	87	☐	☐	102	☐	☐	117	☐	☐	132	☐	☐	152	☐	☐
13	☐	☐	28	☐	☐	43	☐	☐	58	☐	☐	73	☐	☐	88	☐	☐	103	☐	☐	118	☐	☐	133	☐	☐	153	☐	☐
14	☐	☐	29	☐	☐	44	☐	☐	59	☐	☐	74	☐	☐	89	☐	☐	104	☐	☐	119	☐	☐	134	☐	☐	154	☐	☐
15	☐	☐	30	☐	☐	45	☐	☐	60	☐	☐	75	☐	☐	90	☐	☐	105	☐	☐	120	☐	☐	135	☐	☐	155	☐	☐

	SM²	SM	VO	Imm	Au	Al	MA	Wd	SA	Rep	Dan	OTHER
Raw Score												

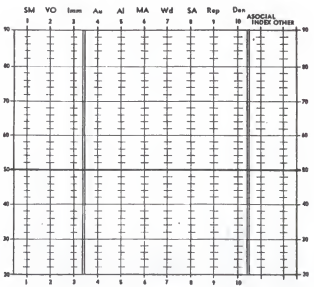
	AA	AP	CPM	CFC	MP	NA	NX	SE	CI
Raw Score									

APPENDIX F
JESNESS PERSONALITY INVENTORY PROFILE SHEET

JESNESS INVENTORY **PROFILE** SHEET

Name _____ Sex: M ____ F ____ Age _____ Date Tested _____

Other Information _____



	SM	YO	Imm	Au	Al	MA	Wd	SA	Rep	Den	ASOCIAL INDEX OTHER
T-Score											
Raw Score											

Jesness Inventory Classication System

	I-2		I-3			I-4			
	AA	AP	CFM	CFC	MP	NA	NX	SE	CI
Raw Score									
T-Score									

Classication: _____

Notes:

TABLE OF WEIGHTS FOR COMPUTATION OF ASOCIAL INDEX

Raw Score	Weights for Boys						Raw Score	Weights for Girls						Raw Score
	Rep	SA	Wd	MA	Al	Au		VO	SM*	SM	SM	SM*	VO	Au	Al	MA	Wd	SA	Den	
1	0	0	0	0	1	1	0	15	1	1	1	21	0	1	0	1	0	0	0	1
2	0	1	0	0	1	1	1	15	2	2	2	22	0	1	1	1	1	1	1	2
3	0	1	0	1	2	2	1	16	3	3	4	22	1	2	1	2	1	1	1	3
4	1	2	1	1	3	2	1	17	4	4	5	22	1	2	2	2	1	1	2	4
5	1	2	1	1	4	3	1	18	5	5	6	23	1	3	2	3	2	2	2	5
6	1	2	1	1	4	3	2	19	5	6	7	23	1	3	3	3	2	2	2	6
7	1	3	1	2	5	4	2	20	6	7	8	24	1	4	3	4	2	2	3	7
8	1	3	1	2	6	4	2	21	7	8	10	24	1	5	4	5	2	2	3	8
9	1	4	1	2	6	5	2	22	8	9	11	24	1	5	4	5	3	3	4	9
10	1	4	1	2	7	5	3	22	9	10	12	25	2	6	4	6	3	3	4	10
11	2	4	1	3	8	6	3	23	10	11	13	25	2	6	5	6	3	3	5	11
12	2	5	2	3	8	6	3	24	11	12	14	25	2	7	5	7	4	4	5	12
13	2	5	2	3	9	7	3	25	12	13	16	26	2	8	6	8	4	4	5	13
14	2	6	2	3	10	7	4	26	13	14	17	26	2	8	6	8	4	4	6	14
15	2	6	2	4	11	8	4	27	14	15	18	27	2	9	7	9	5	5	6	15
16		6	2	4	11	8	4	28	14	16	19	27	2	9	7	9	5	5	7	16
17		7	2	4	12	9	4	29	15	17	20	27	3	10	7	10	5	5	7	17
18		7	2	4	13	9	5	29	16	18	22	28	3	10	8	11	6	5	7	18
19		8	3	5	13	10	5	30	17	19	23	28	3	11	8	11	6	6	8	19
20		8	3	5	14	11	5	31	18	20	24	28	3	12	9	12	6	6	8	20
21		8	3	5	15	11	5	32	19	21	25	29	3	12	9	12	6	6		21
22		9	3	5	16	12	6	33	20	22	26	29	3	13	10	13	7	7		22
23		9	3	6	16	12	6	34	21	23	28	30	4	13	10	14	7	7		23
24		10	3	6	17	13	6	35	22	24	29	30	4	14	11	14	7	7		24
25				6	18	13	7	36	23	25	30	30	4	14	11	15				25
26				6	18	14	7	37	23	26	31	31	4	15	11	15				26
27				7		14	7	37	24	27	32	31	4	16		16				27
28				7		15	7	38	25	28	34	31	4	16		16				28
29				7			8	39	26	29	35	32	5			17				29
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									50	55	66									

Add Weights:	Add Weights:
SM _____	VO _____
SM* _____	Au _____
	Al _____
	MA _____
Sum$_1$ _____	Wd _____
	SA _____
Subtract:	Rep (boys) or Den (girls) _____
Sum$_2$ _____	
ASOCIAL INDEX _____ *	Sum$_2$ _____

* Transfer to other side of profile

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BIOGRAPHICAL SKETCH

John Charles (Chuck) Cluxton is the oldest of two sons born to Dr. John Franklin and Janice Siwik Cluxton on January 15, 1965, in Gainesville, Florida. After the loss of his father in 1978, he was fortunate to have gained his step-father William H. Hall and family in 1980. Chuck graduated from Bay High School in Panama City, Florida, in 1983 and received his Associates of Arts degree with a major in psychology at Gulf Coast Community College, Panama City, Florida, in 1986.

Chuck moved to Gainesville, Florida in 1987 to attend the University of Florida where he earned his Bachelor of Science degree in 1989, with a major in psychology and a minor in sociology. After a three-month counseling internship at the Life Management Center of Northwest Florida located in Panama City, Florida, he enrolled as a graduate student in the University of Florida Department of Counselor Education in 1989 and graduated in 1993, receiving the Master of Education and Education Specialist degrees in Mental Health Counseling & Marriage and Family Counseling. During this time, in the summer of 1990, Chuck married Tali Lynn Cilbrith, a Panama City schoolmate and fellow University of Florida student. Chuck was accepted into the doctoral program in Counselor Education at the University of Florida in 1994. His area of specialization was Marriage and Family Counseling with a Sub-Specialization in Adolescence and Delinquency.

During his graduate studies, Chuck was inducted into multiple honor societies, including Who's Who Among College Students (1988), Psi Chi, National Honor Society in Psychology (1988-89), Pi Lamda Theta, National Honor and Professional Association in Education (1991), Kappa Delta Pi, International Honor Society In Education (1991), and Chi Sigma Iota, Counseling Academic and Professional Honor Society International (1992). Chuck was also Nominated as 1996's Doctoral Student of The Year Chi Sigma Iota's Beta Chapter.

During his graduate studies, Chuck served as a Teaching Assistant for several graduate classes in the Counselor Education Department and co-published a series of study guides designed to help students master graduate level statistics. He also provided individual and group clinical supervision for graduate students from the University of Florida's departments of Counselor Education, Rehabilitation Counseling and Clinical and Counseling Psychology from 1991 to 1997.

Chuck worked for CREST Services from 1991 to 1996, and following the completion of the contract between CREST Services and The Florida Department of Juvenile Justice, he worked for Diversified Human Services, Gainesville, Florida, from 1997 to 1998 as Director of the Youth and Family Services division. In both agencies, Chuck supervised clinical staff, administered programs, designed counseling modules, and provided individual, group and family counseling services to children and adolescents adjudicated delinquent by the juvenile court system.

He has played a role in the formation and implementation of a new Internet based corporation called Quality Quest L.L.C., Eagle Lake, Maine, since the spring of 1997.

Quality Quest is the provider of Excel-A-Rate services, an Internet based set of surveying and evaluation services for educational institutions and corporations. Chuck's roles include being an account representative, an entrepreneurial investment counselor, a marketing advisor, and the referral agent for the Quality Quest employment assistance program.

Chuck and Tali moved to Acworth, Georgia in the summer of 1998 following Tali's admission to the Doctorate of Chiropratic program at Life University in Marietta, Georgia. While in Georgia, Chuck became licensed as a Marriage and Family Therapist by the states of Georgia and Florida. He is currently in private practice with Gerald D. Jennings, Ph.D., L.P.C., & Associates in Rome, Georgia. Beyond providing individual, group, family, and marriage therapy, he also provides clinical supervision to psychology students at Berry College in Rome, Georgia. Further, he continues to develop and implement a wide variety of counseling programs for the adolescent and delinquent population.

He plans to continue counseling and designing counseling programs for the development of youth and their families. These programs will be designed for the improvement of the overall efforts in prevention and treatment of the adolescent and delinquent population.

I certify that I have ready this student and that in my opinion it conforms to acceptable standards of scholarly presentation is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Peter A. D. Sherrard, Chair
Associate Professor of Counselor Education

I certify that I have ready this student and that in my opinion it conforms to acceptable standards of scholarly presentation is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

M. David Miller
Professor of Educational Psychology

I certify that I have ready this student and that in my opinion it conforms to acceptable standards of scholarly presentation is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Robert D. Myrick
Professor of Counselor Education

I certify that I have ready this student and that in my opinion it conforms to acceptable standards of scholarly presentation is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Silvia Echevarria Rafuls
Assistant Professor of Counselor Education

I certify that I have ready this student and that in my opinion it conforms to acceptable standards of scholarly presentation is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

August 1999

Dean, College of Education

Dean, Graduate School